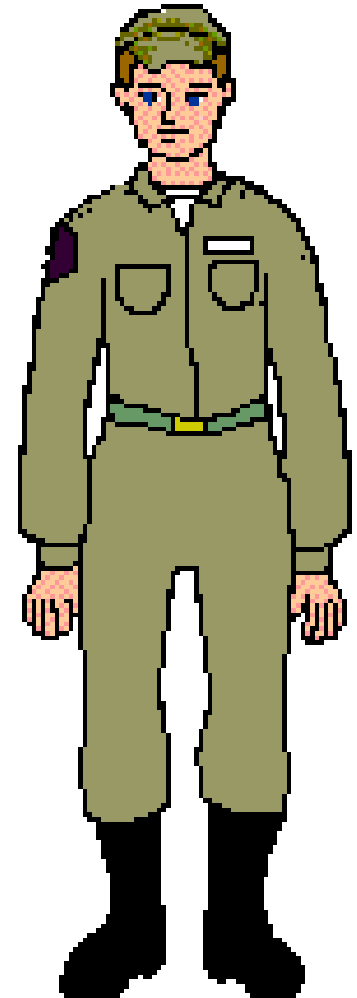




# Armed Forces College of Medicine AFCM





# **Anatomy Department**

## **The Axilla**

### **BY**

## **Prof. Azza Kamal**

# Intended Learning Outcomes

**By the end of this lecture, each student should be able to:**



- **Define the axilla**
- **Describe its boundaries**
- **Enumerate its contents**
- **Give a note on related applied anatomy**
- **Describe the origin, termination & branches of axillary artery.**
- **Describe the origin, tributaries & termination of axillary vein.**

# **KEY POINTS OF THE LECTURE**

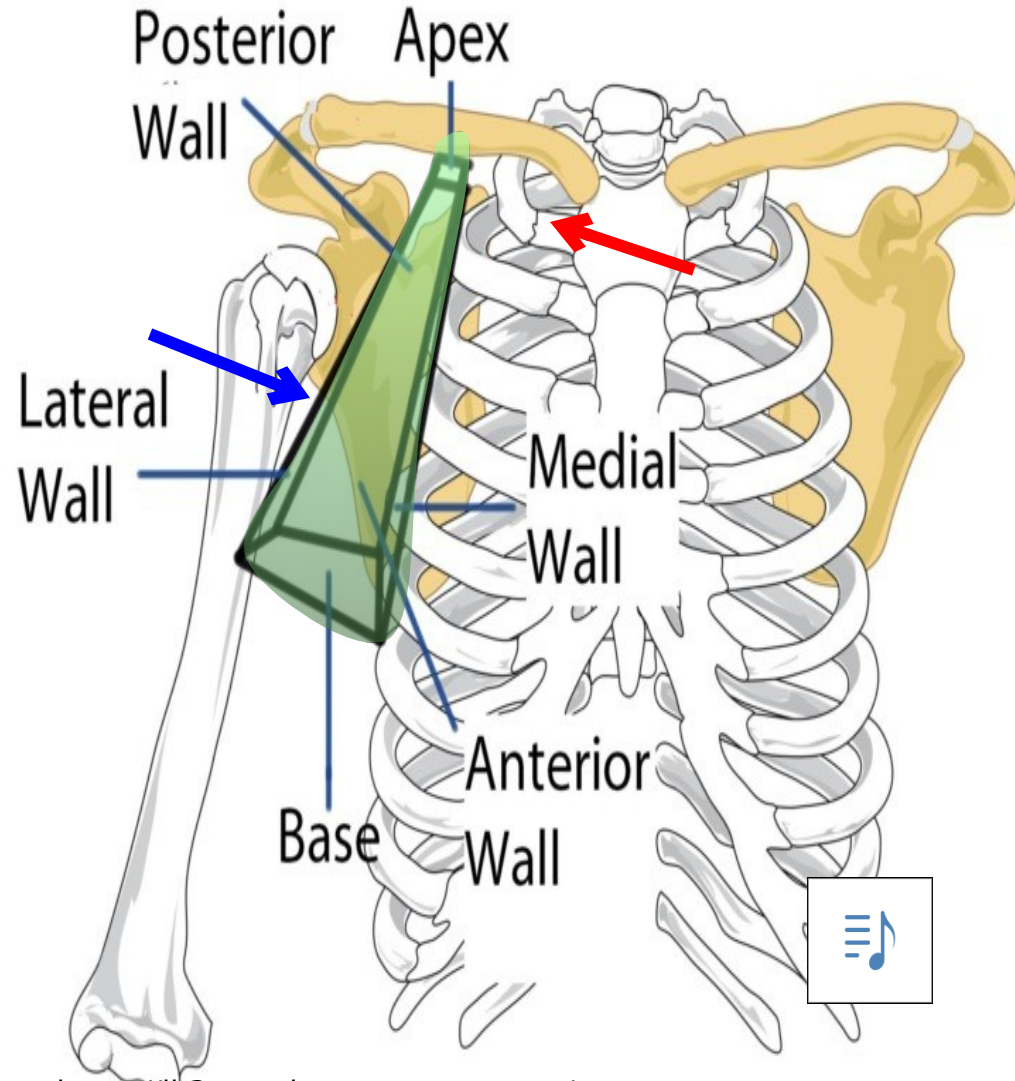
- **Boundaries & contents of the axilla**
- **Related applied anatomy**
- **Origin, termination & branches of axillary artery.**
- **Origin, tributaries & termination of axillary vein.**

# Definition

n

- **4 sided pyramidal space between:**
  - 1. Upper part of thoracic wall**
  - and**
  - 2. The medial side of upper arm**

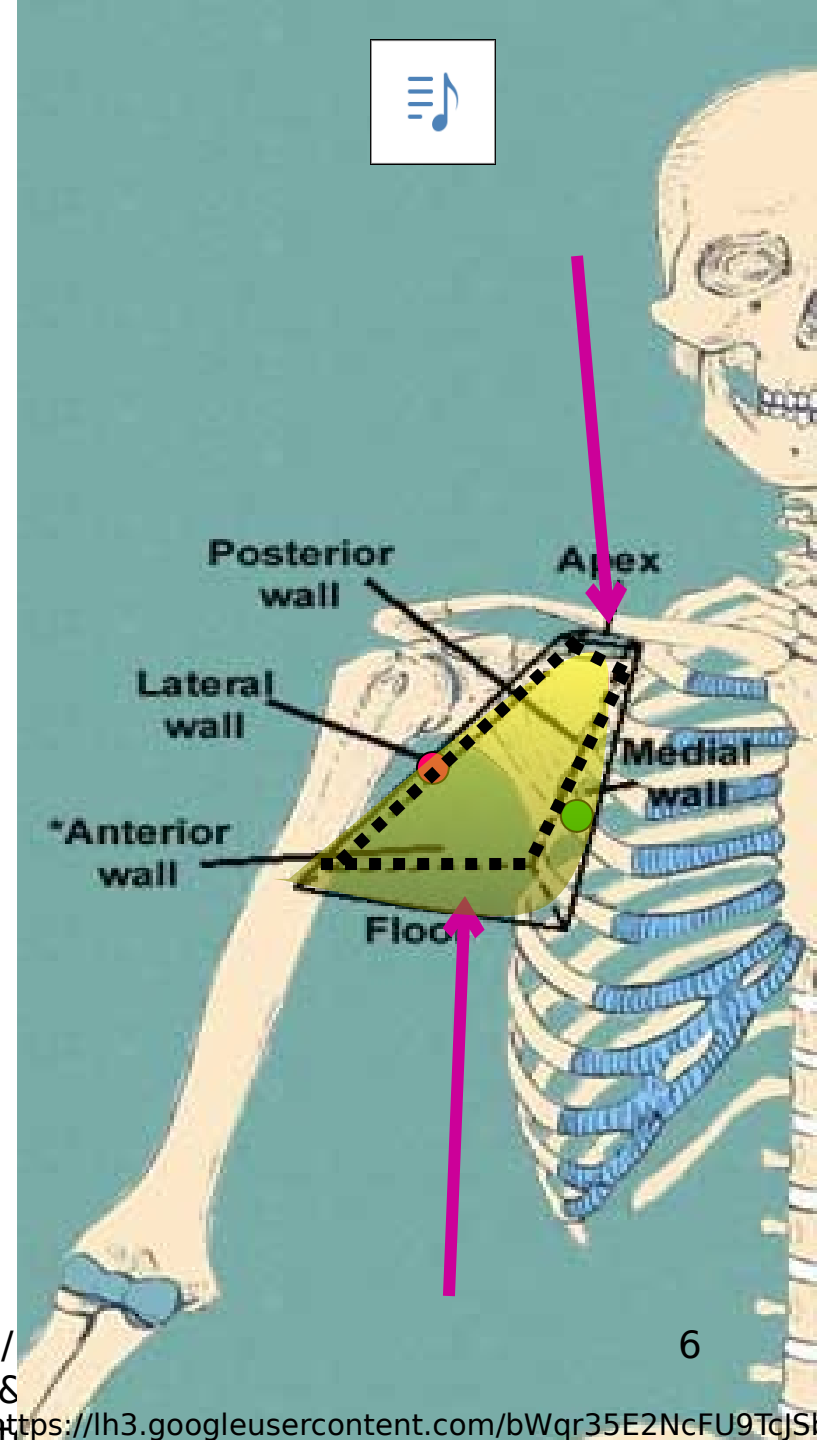
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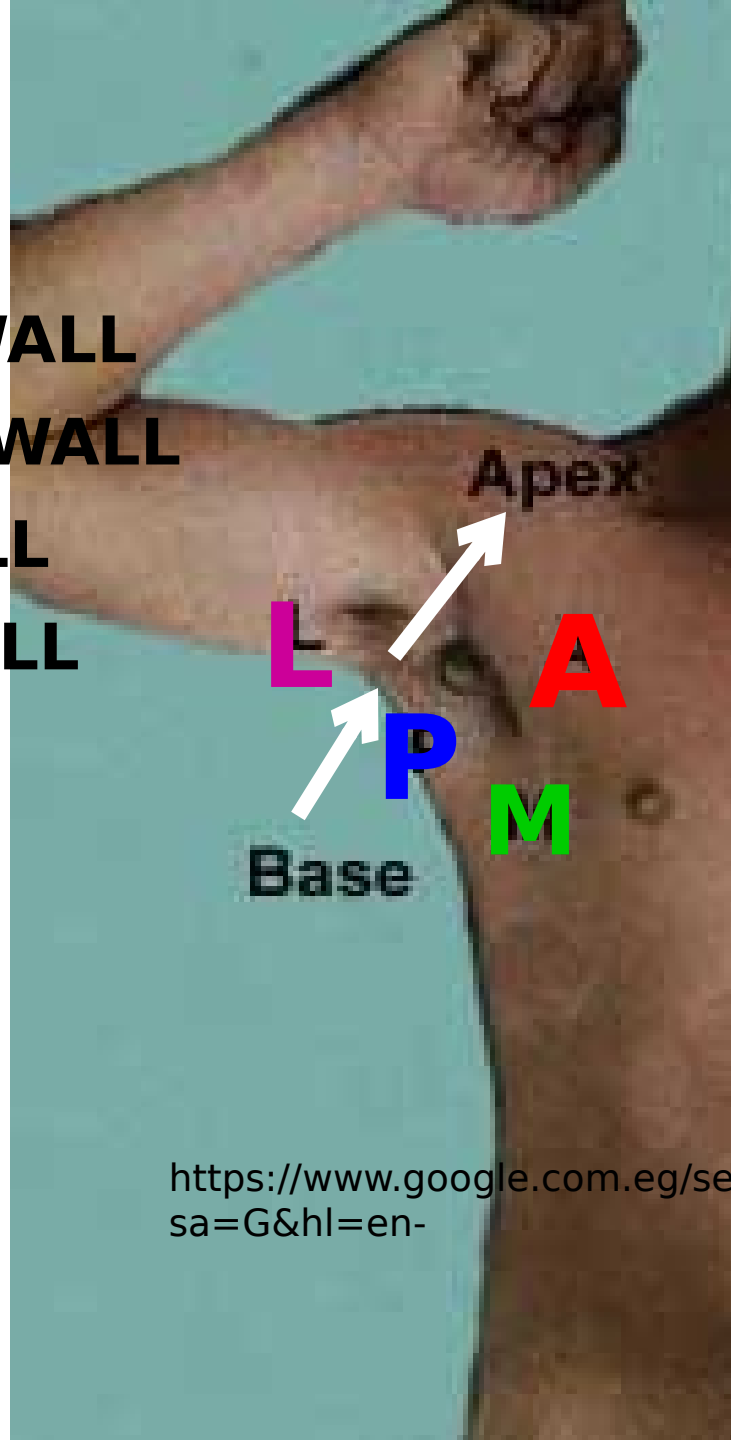
<https://lh3.googleusercontent.com/ANVkJX2qrOO8jGo5zMJWURc->

# BOUNDARIES

- **Axilla has :**
- **Apex**
- **Base (Floor)**
- **4 walls:**
  1. **Anterior wall**
  2. **Posterior wall**
  3. **Medial wall**
  4. **Lateral wall**



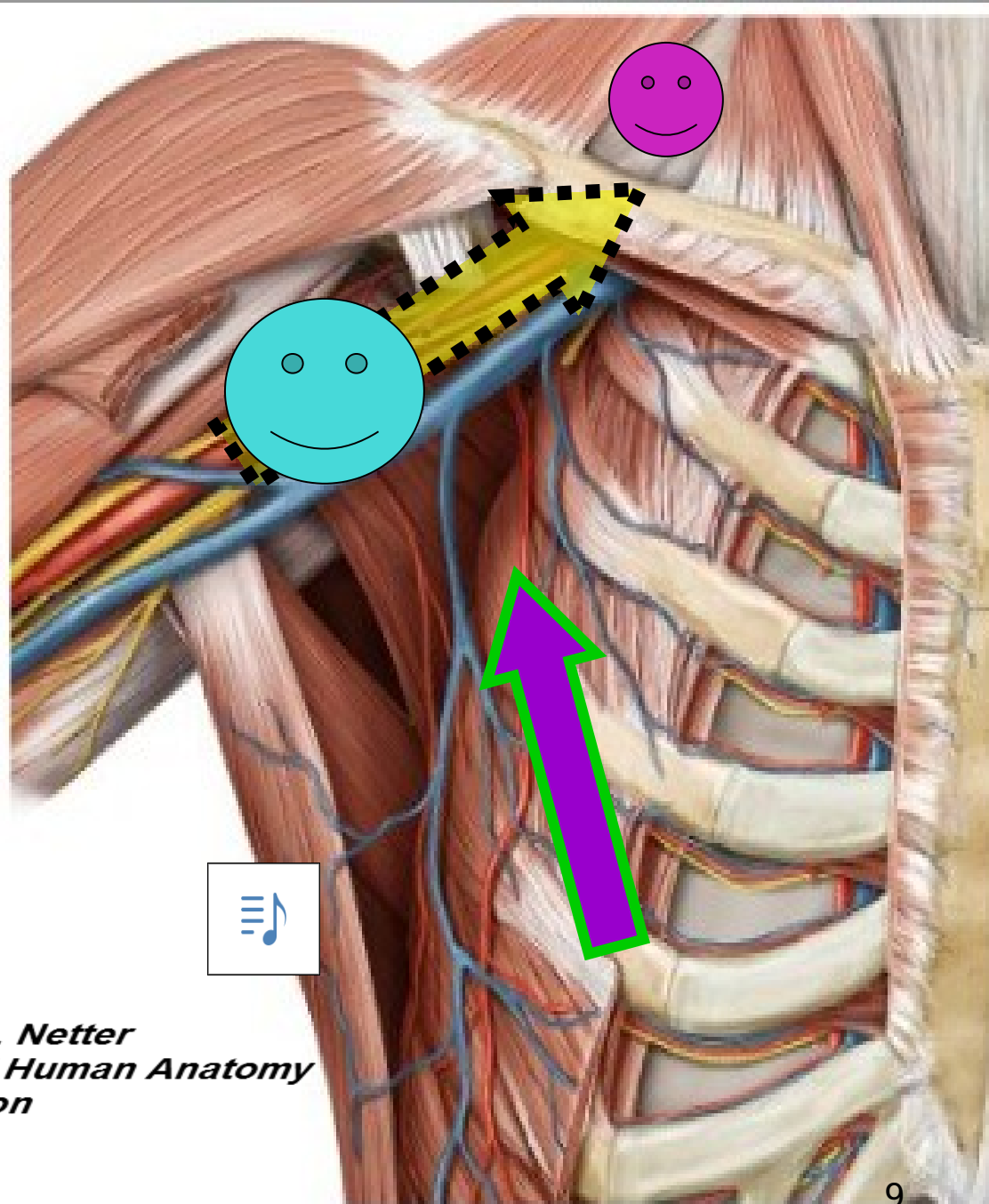
**A**NTERIOR WALL  
**P**OSTERIOR WALL  
**M**EDIAL WALL  
**L**ATERAL WALL  
**A**PEX  
**B**ASE



[https://www.google.com.eg/search?  
sa=G&hl=en-](https://www.google.com.eg/search?sa=G&hl=en-)

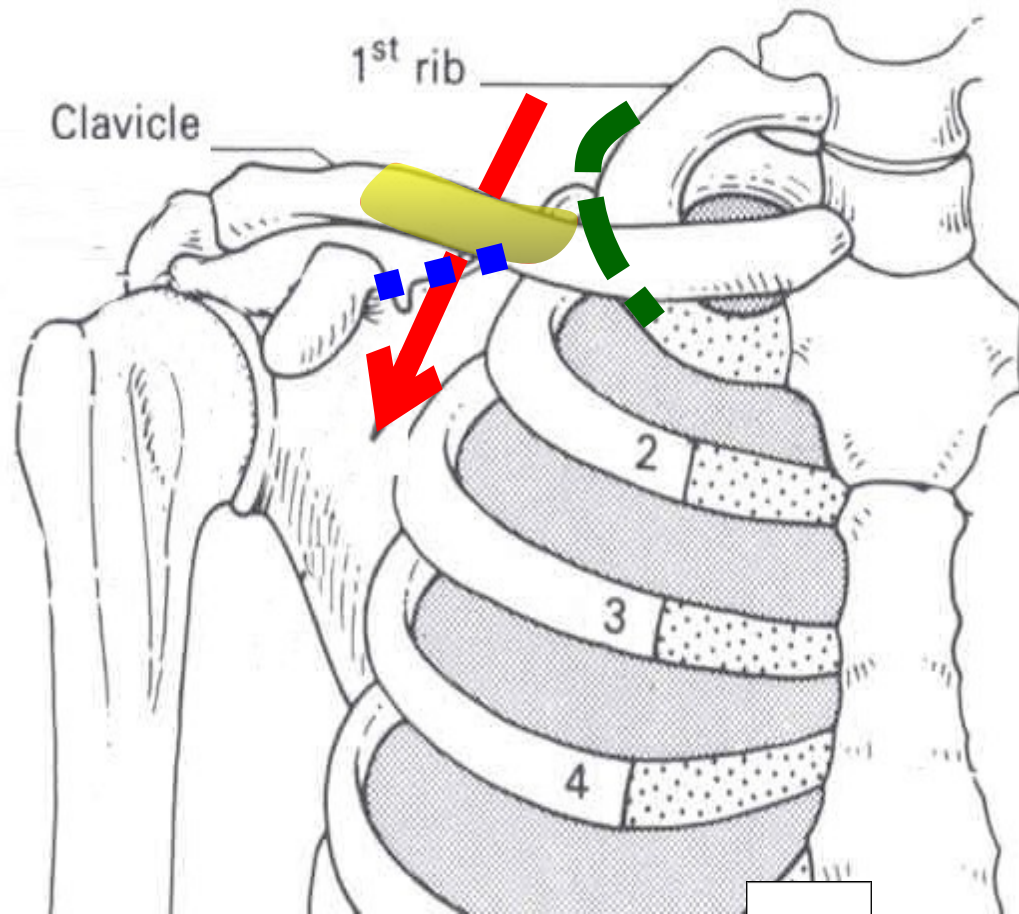


- **Apex:**
- **Directed upwards & medially towards root of neck**
- **Called cervicoaxillary canal**
- **Gives passage to nerves & vessels to pass between neck & upper limb**

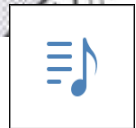


- **Cervicoaxillary y canal is triangular in shape, having:**

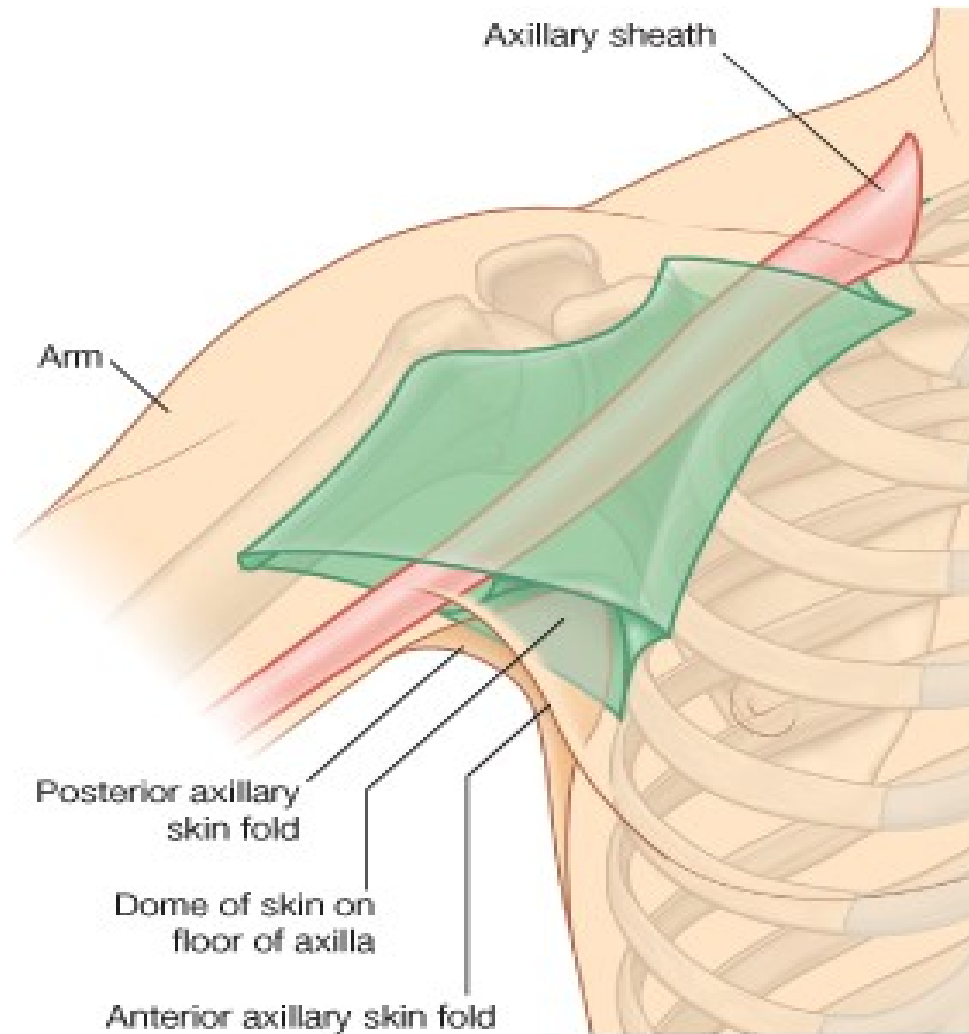
- 1. Anteriorly: middle 1/3 of clavicle**
- 2. Posteriorly: upper border of scapula**
- 3. Medially: outer border of 1<sup>st</sup> rib**



<https://www.google.com.eg/search?hl=en-EG&q=cervicoaxillary+canal&tbm=isch&tbs>

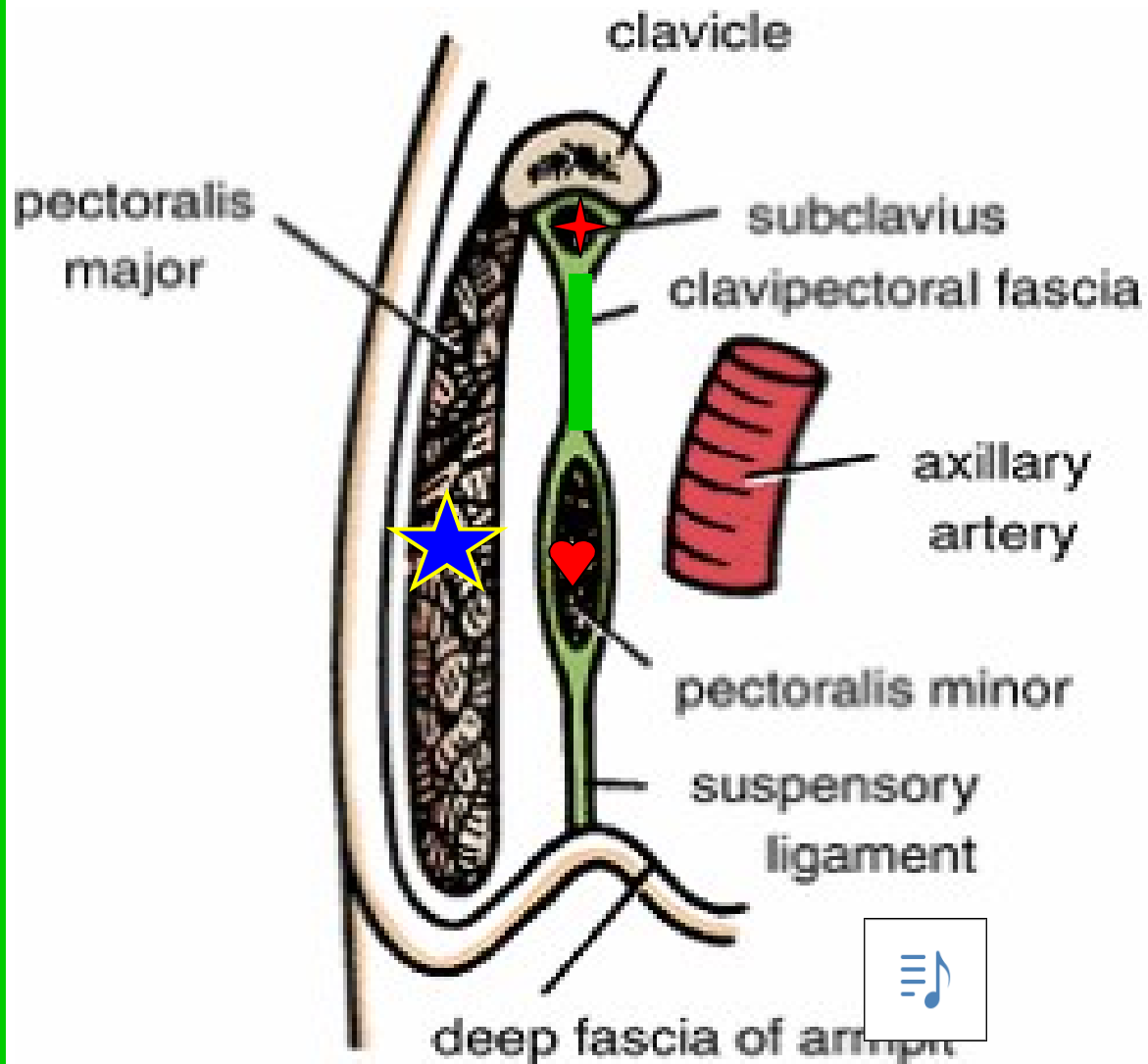


- **Base (floor):**
- **Formed of skin, superficial fascia & axillary fascia**



[https://lh3.googleusercontent.com/6xdX\\_LB2WWCpobmUIXWzTvkei6XdsSMbW3Nb](https://lh3.googleusercontent.com/6xdX_LB2WWCpobmUIXWzTvkei6XdsSMbW3Nb)

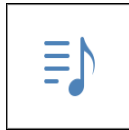
- **Anterior wall of axilla:**
- **Superficial layer** □  
**pectoralis major**
- **Deep layer** □  
**subclavius, pectoralis minor & clavipectoral fascia**



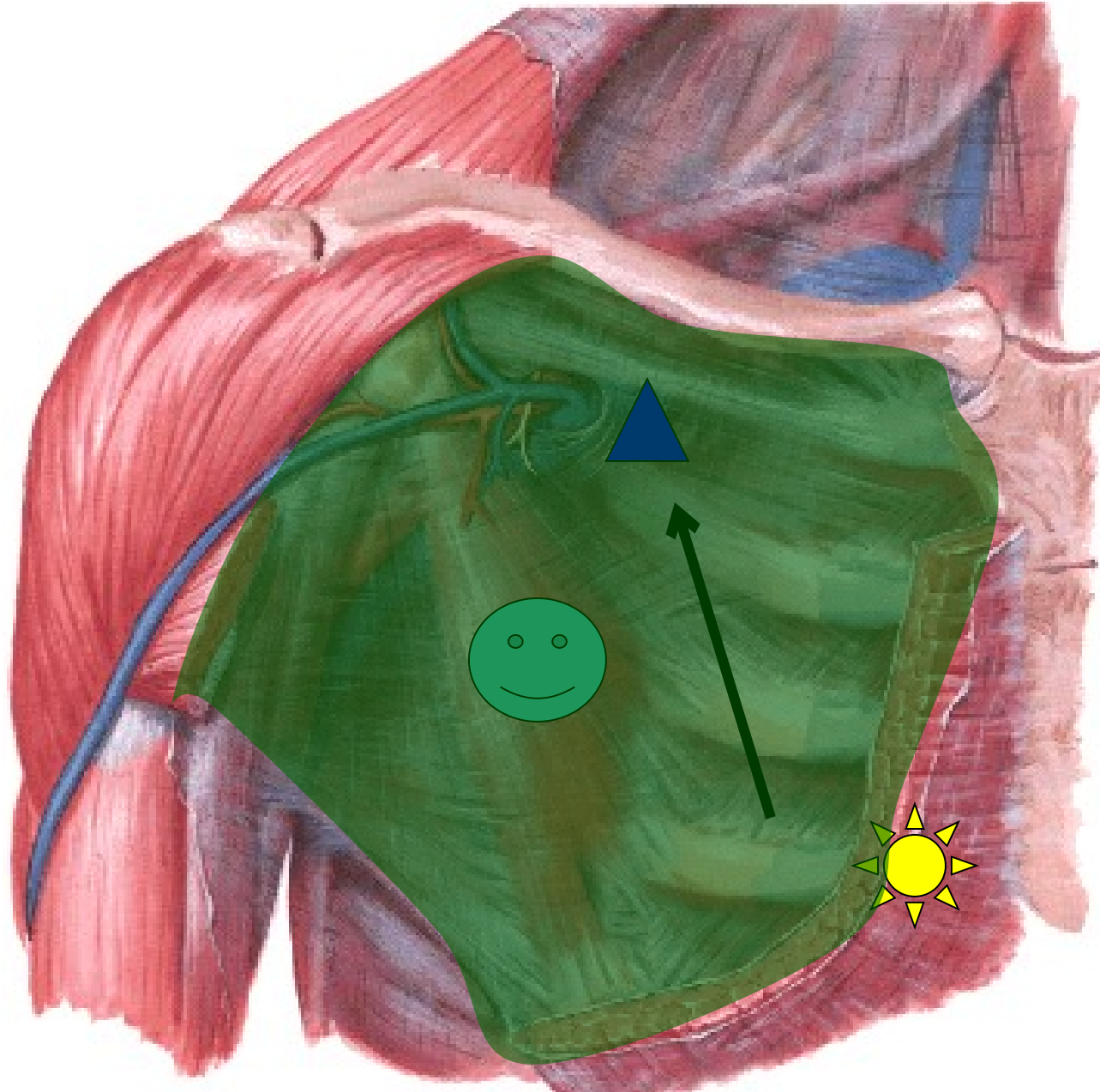
<https://www.google.com.eg/search?sa=G&hl=en>

anterior wall

# Anterior Wall of Axilla



*Frank H. Netter  
Atlas of Human Anatomy  
6<sup>th</sup> edition*

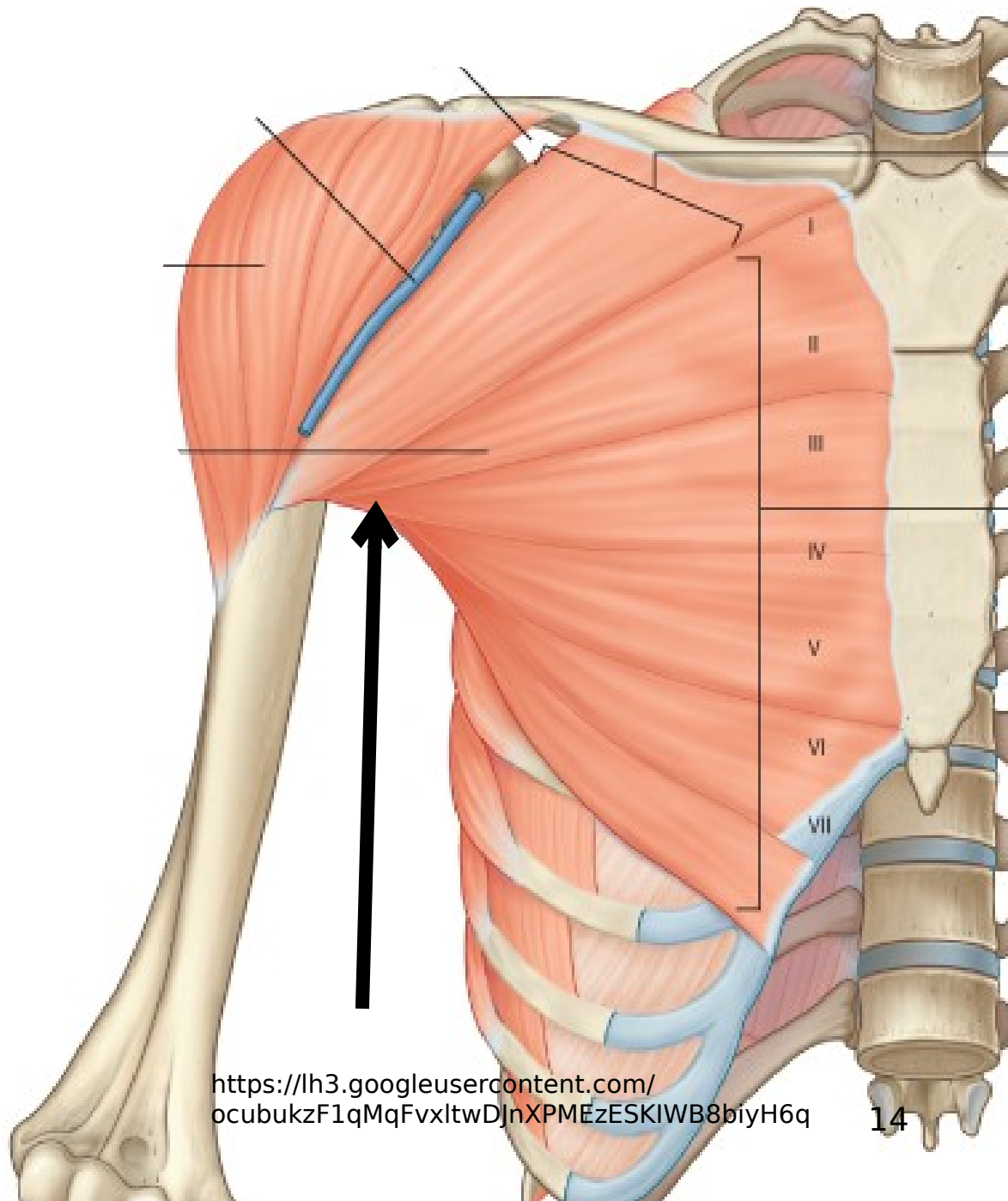
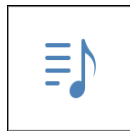


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13

- **Twisted fibers  
of lower  
border of  
pectoralis  
major form  
anterior fold  
of axilla**



<https://lh3.googleusercontent.com/ocubukzF1qMqFvxltwDjnXPMEzESKIWB8biyH6q>

# Doctor is holding anterior fold of axilla between his palms



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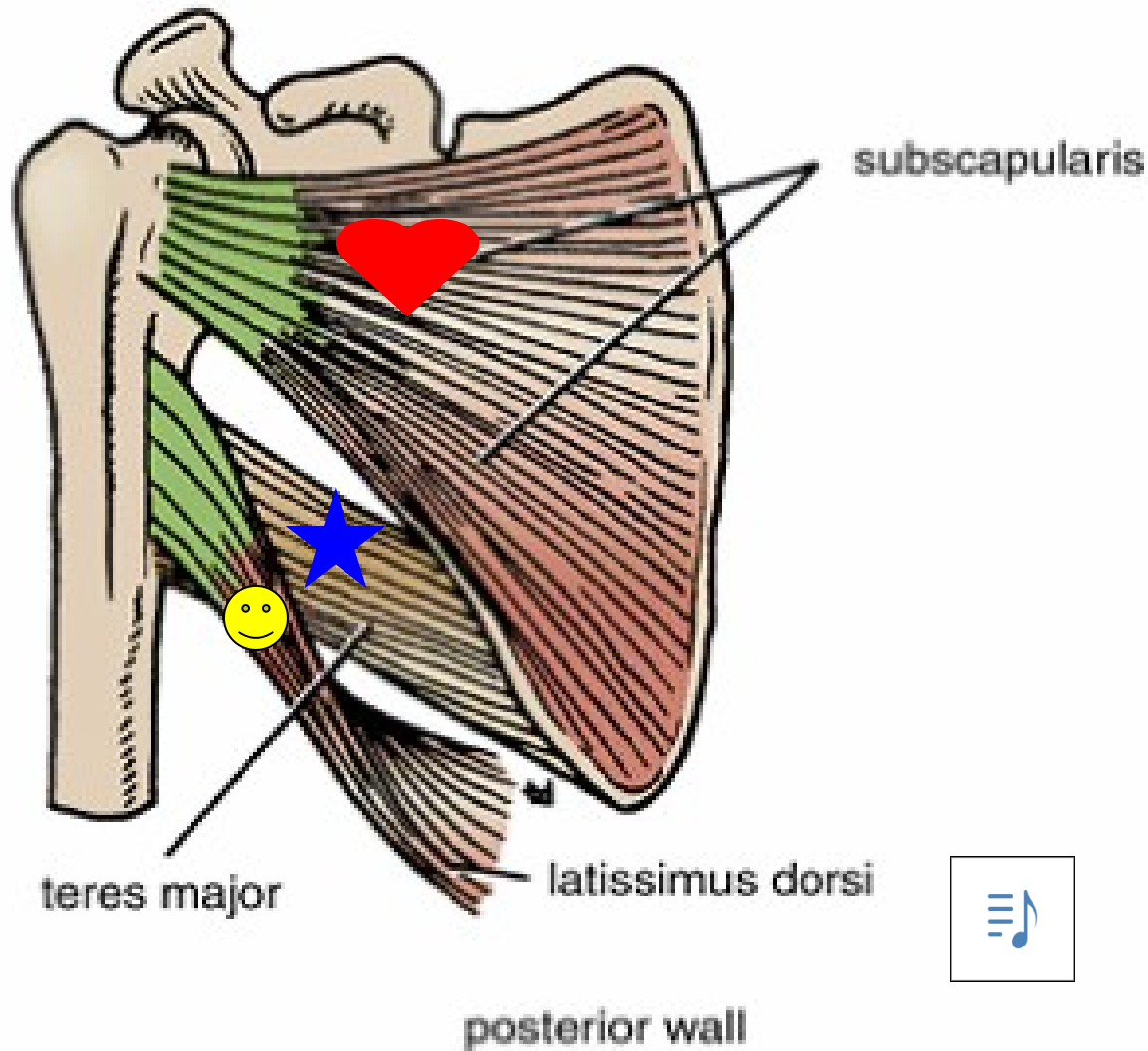
<https://lh3.googleusercontent.com/1RNyBD>

15

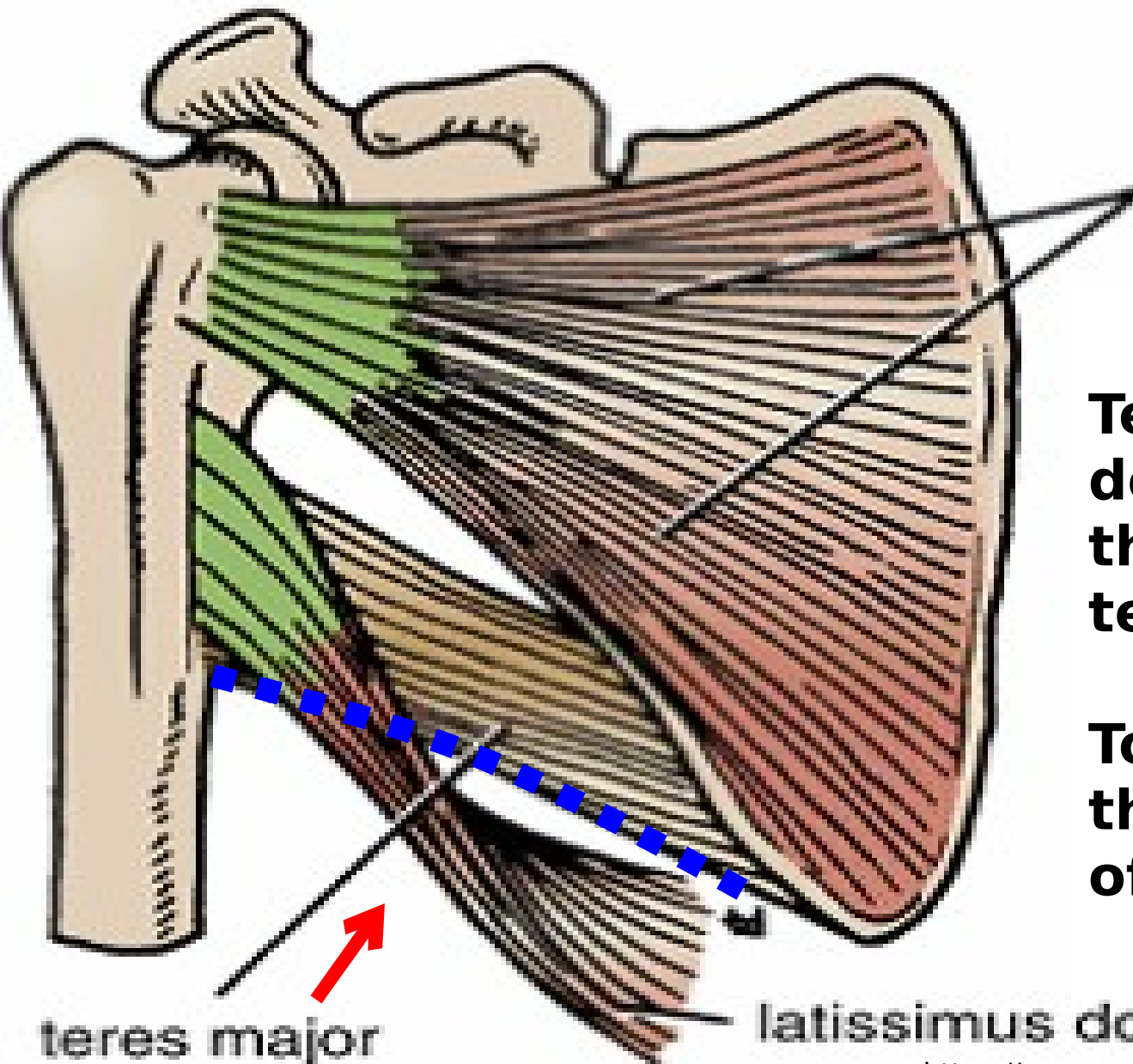
- **Posterior wall of axilla:**

**1. Subscapularis** ❤️  
**s above**

**2. Teres major** ★  
**& latissimus** 😊  
**dorsi below**



<https://www.google.com.eg/search?sa=G&hl=en->



subscapularis

**Tendon of latissimus dorsi winds around the lower border of teres major**

**Together they form the posterior fold of axilla**

teres major

latissimus dorsi

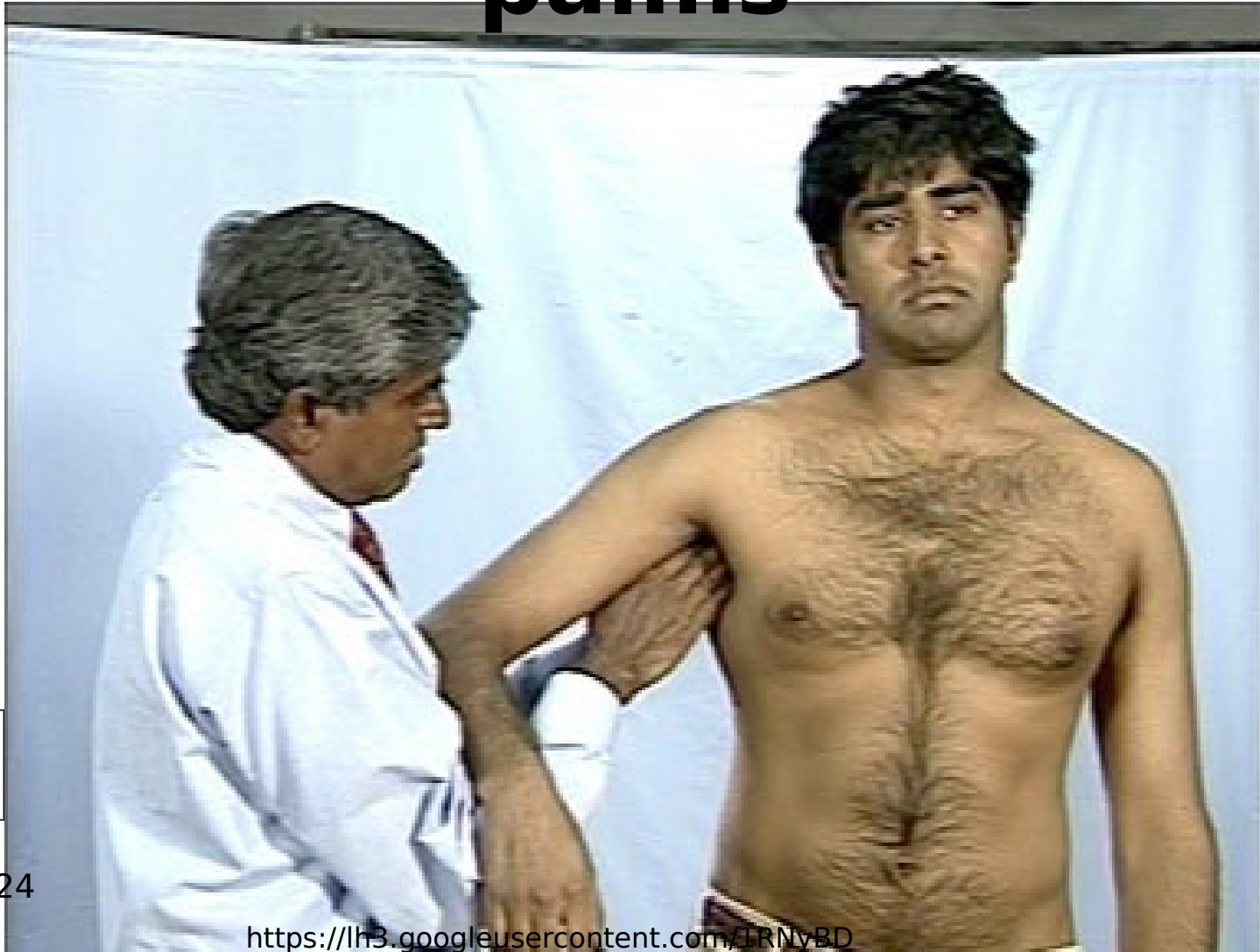
<https://www.google.com.eg/search?sa=G&hl=en->

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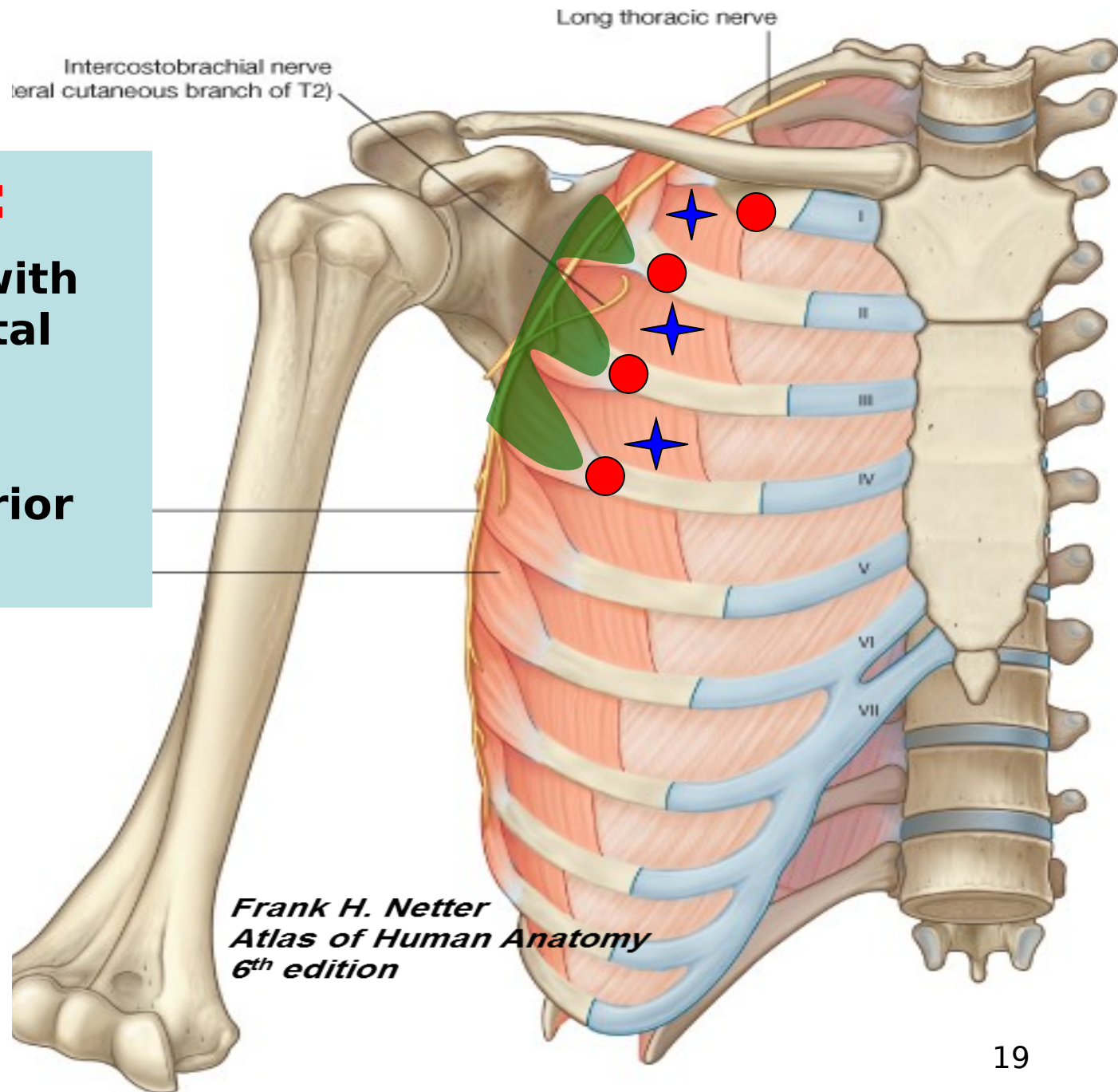
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# Doctor is holding posterior fold of axilla between his palms

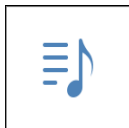


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## Medial wall:

1. Upper 4 ribs with their intercostal muscles
2. Upper part of serratus anterior

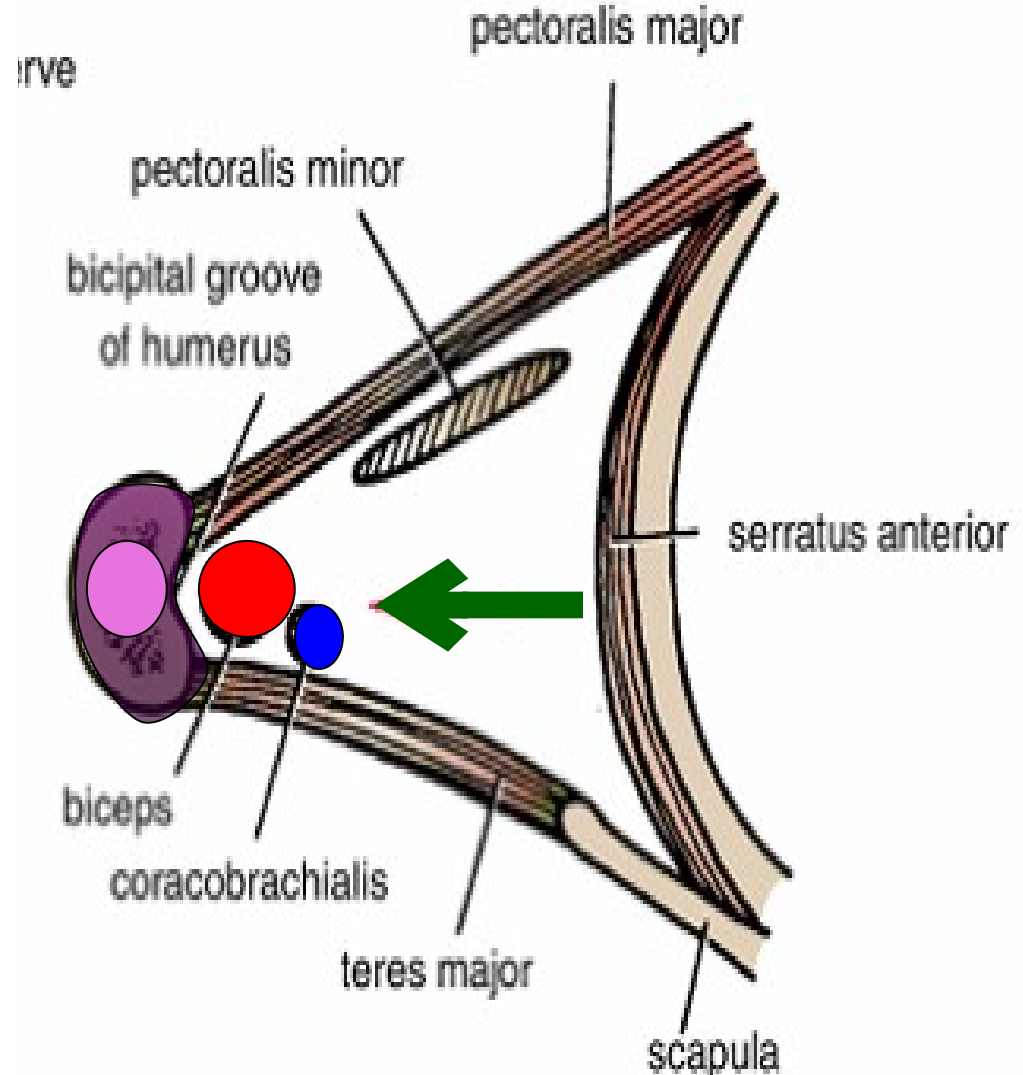
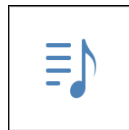


- **Lateral wall:**

1. **Upper part of shaft of humerus**

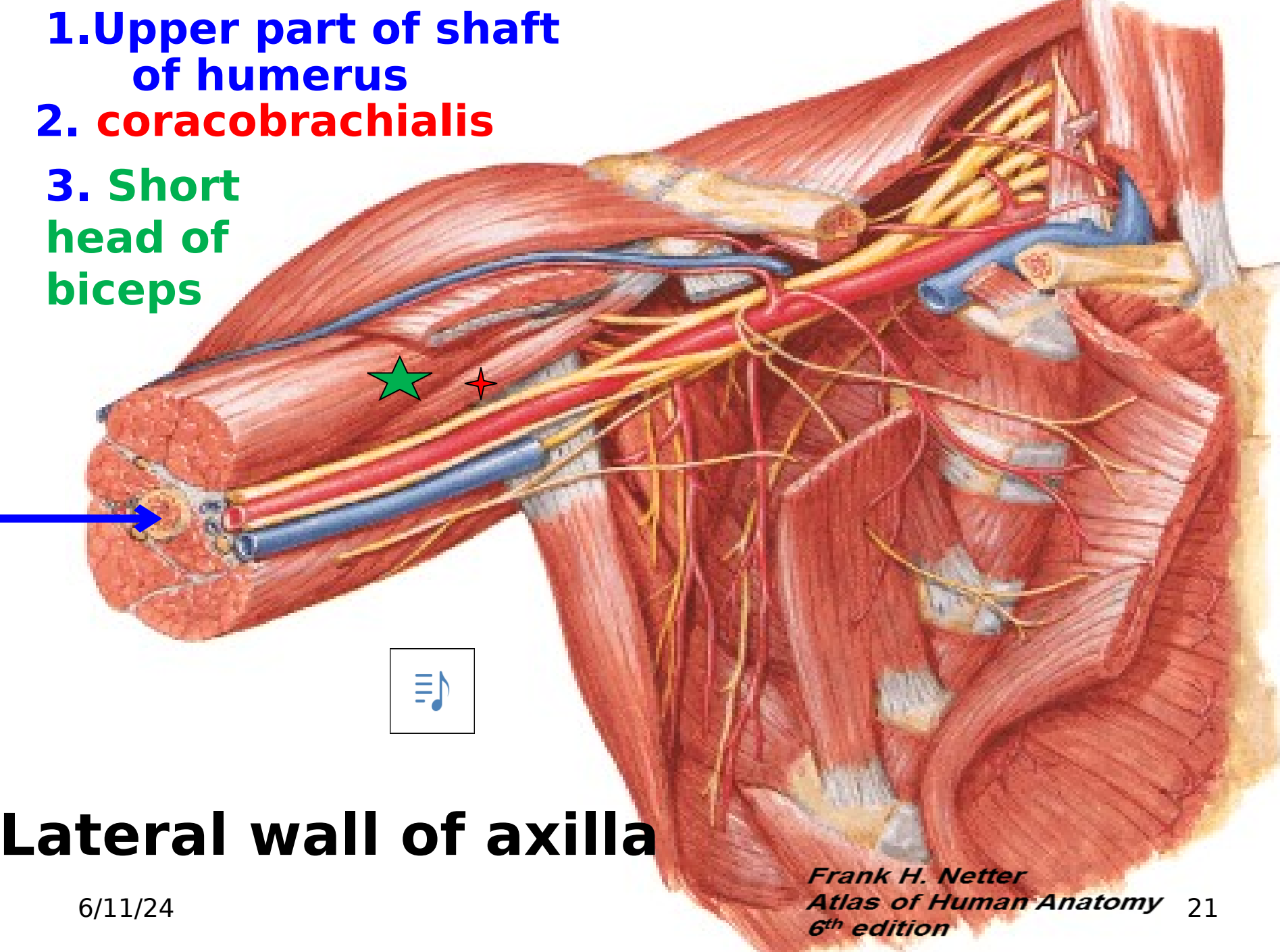
2. **Short head of biceps**

3. **Coracobrachialis**



[https://lh3.googleusercontent.com/HPBd\\_](https://lh3.googleusercontent.com/HPBd_)

1. Upper part of shaft of humerus
2. coracobrachialis
3. Short head of biceps



## Lateral wall of axilla

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Frank H. Netter  
Atlas of Human Anatomy 21  
6th edition

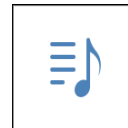
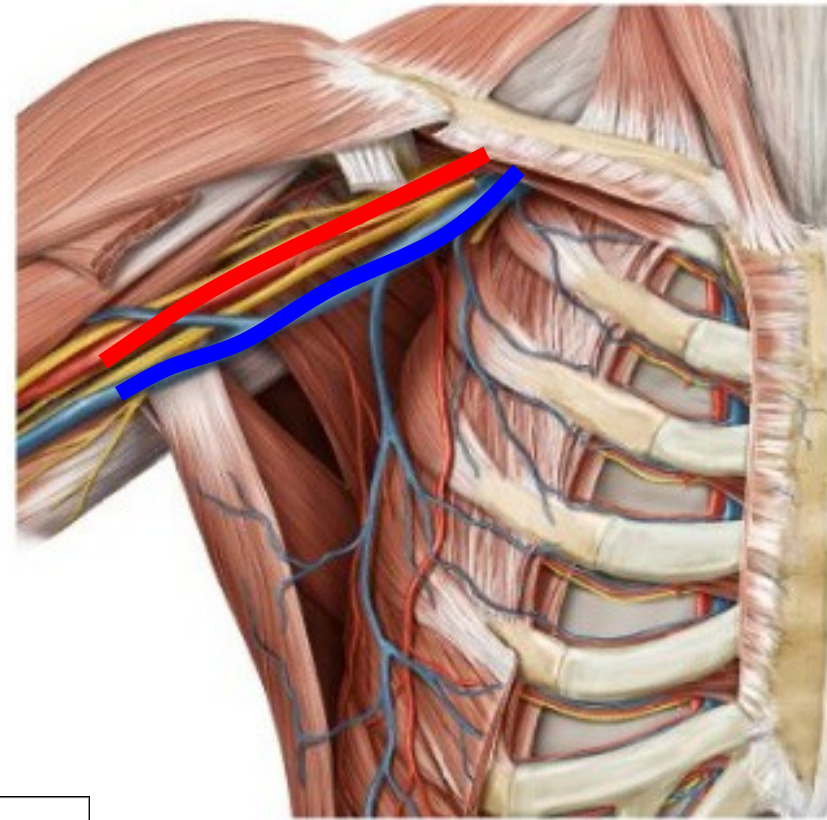
• **Which of the following structures form the medial wall of the axilla ?**

- A. Upper 4 ribs**
- B. Intercostal muscles**
- C. Upper part of serratus anterior**
- D. All of the above**
- E. Subscapularis, teres major & latissimus dorsi**



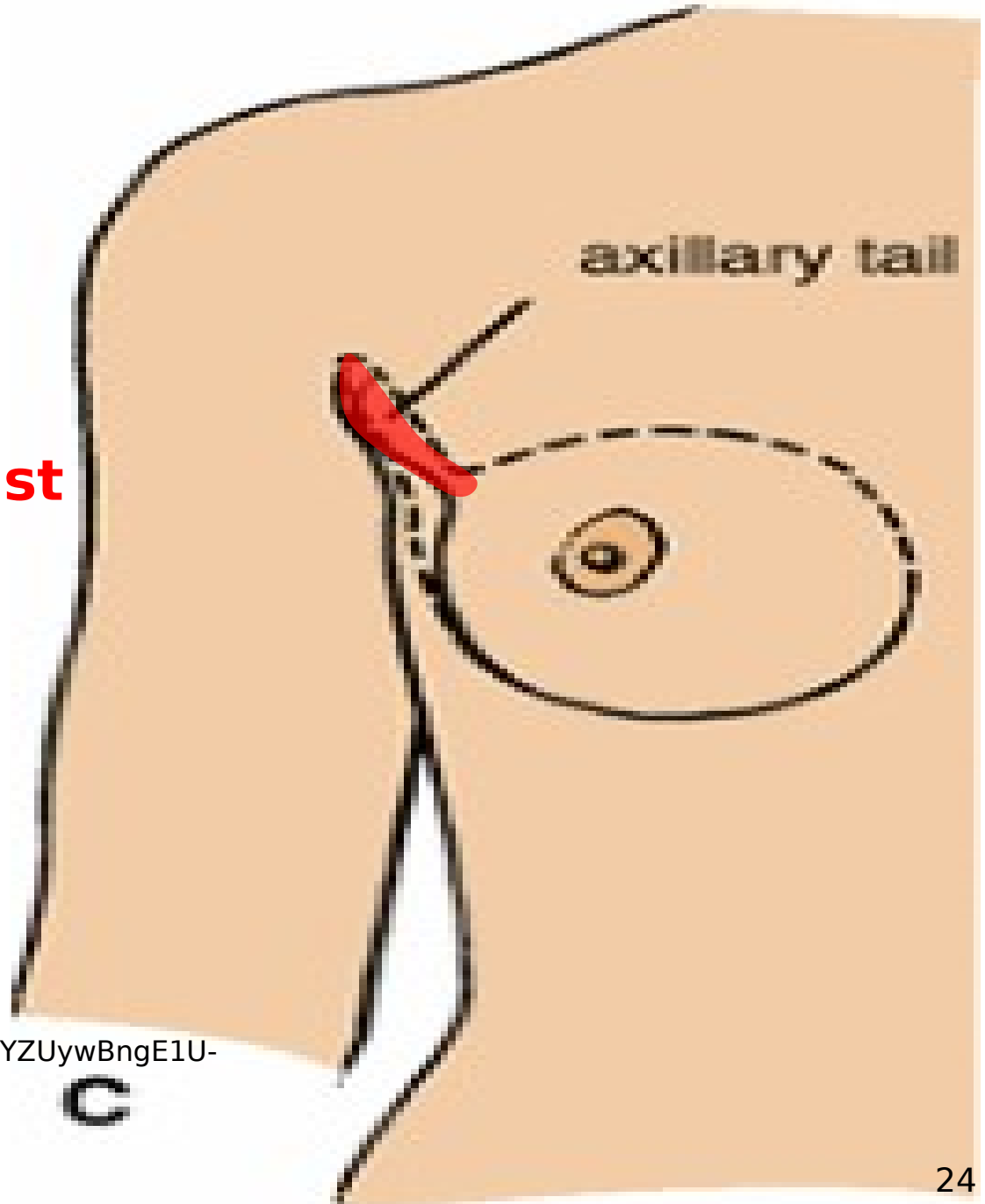
# Contents of axilla

1. **Axillary** artery & its branches
2. **Axillary** vein & its tributaries
3. Cords of brachial plexus & their brs
4. **Axillary** L.N.
5. **Axillary** tail of breast
6. **Intercostobrachial** (lateral cutaneous br of T2) & **long thoracic nerve**



*Frank H. Netter  
Atlas of Human Anatomy  
6th edition*

## Axillary tail of breast

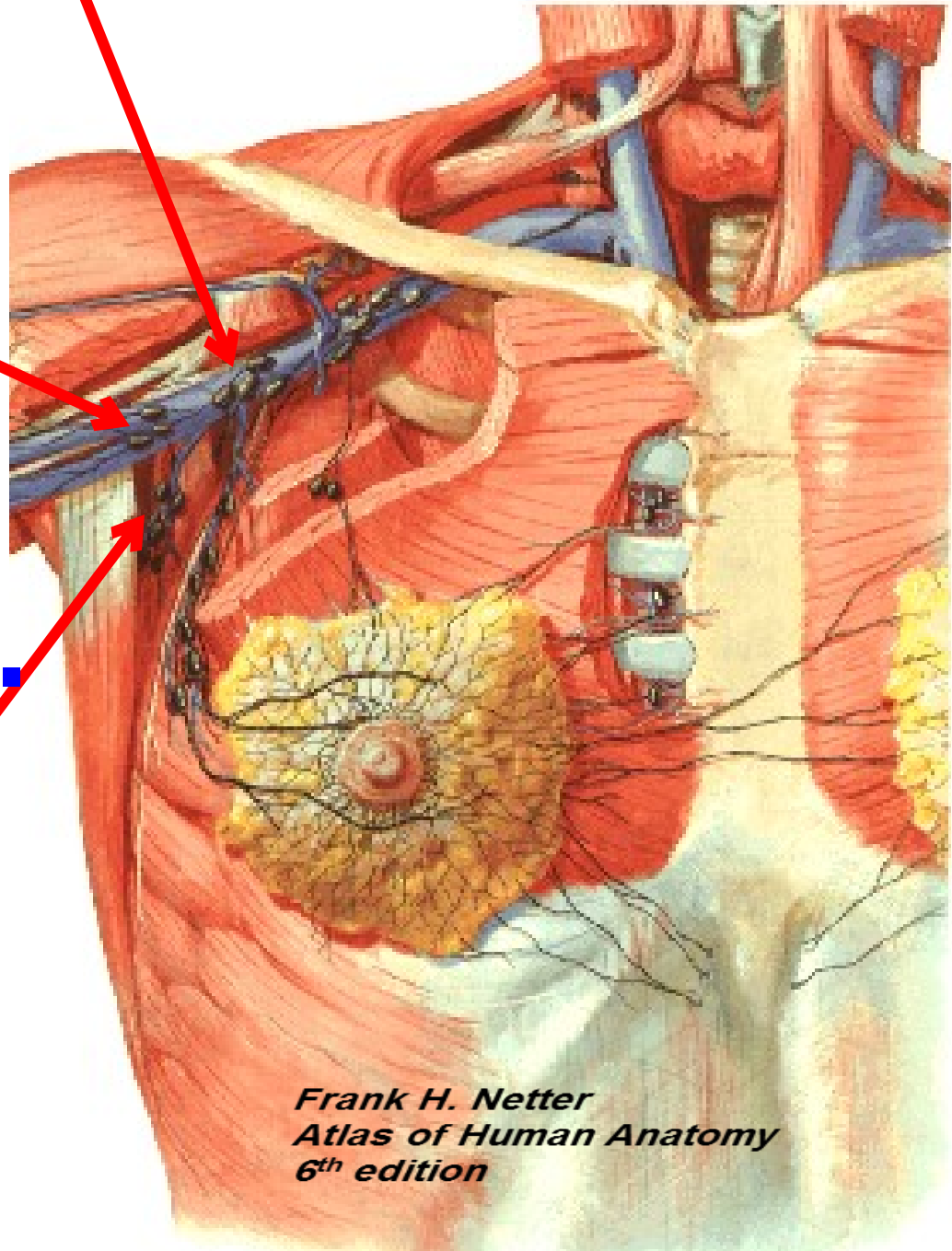


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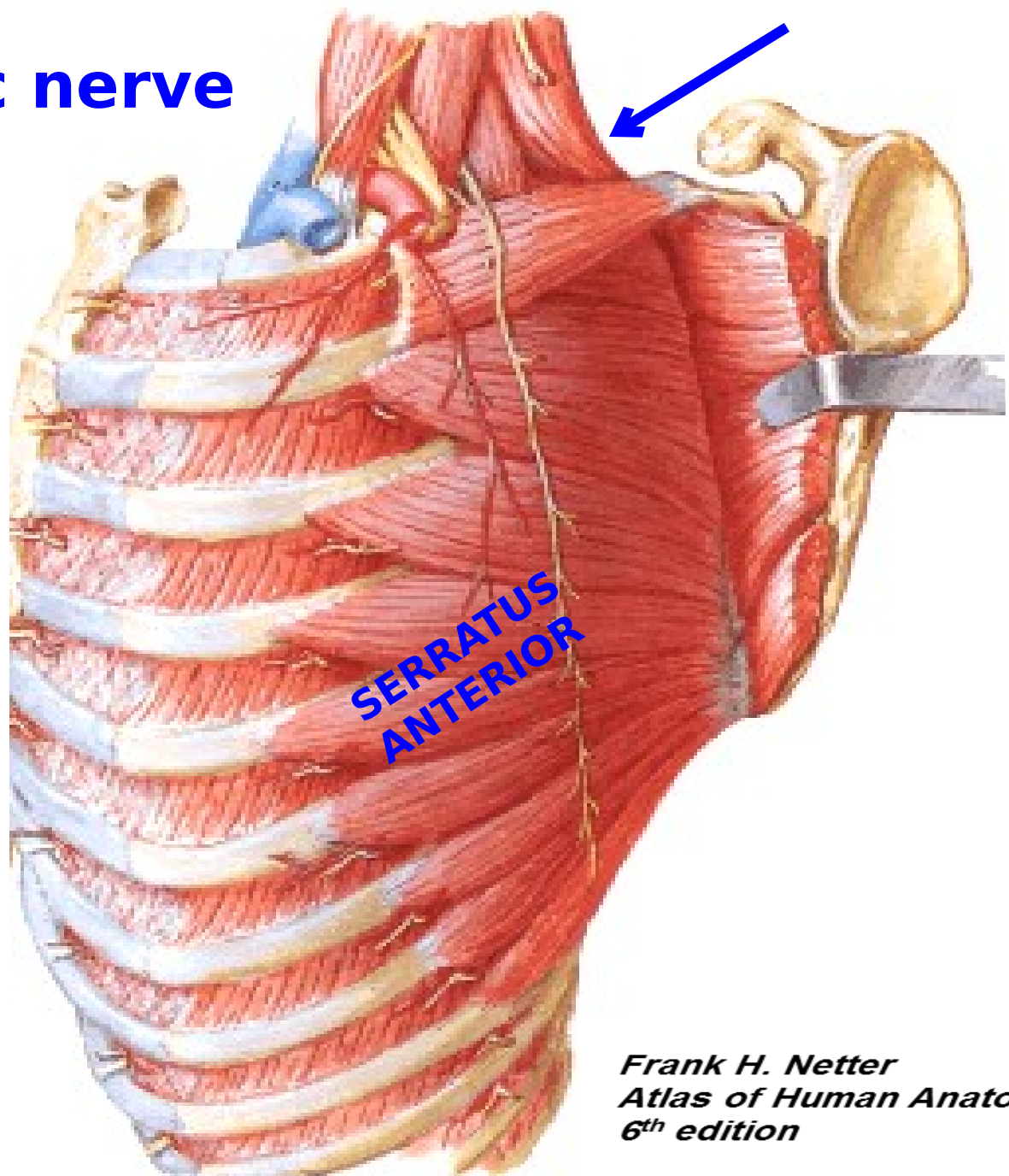
24

# Axillary L.N.



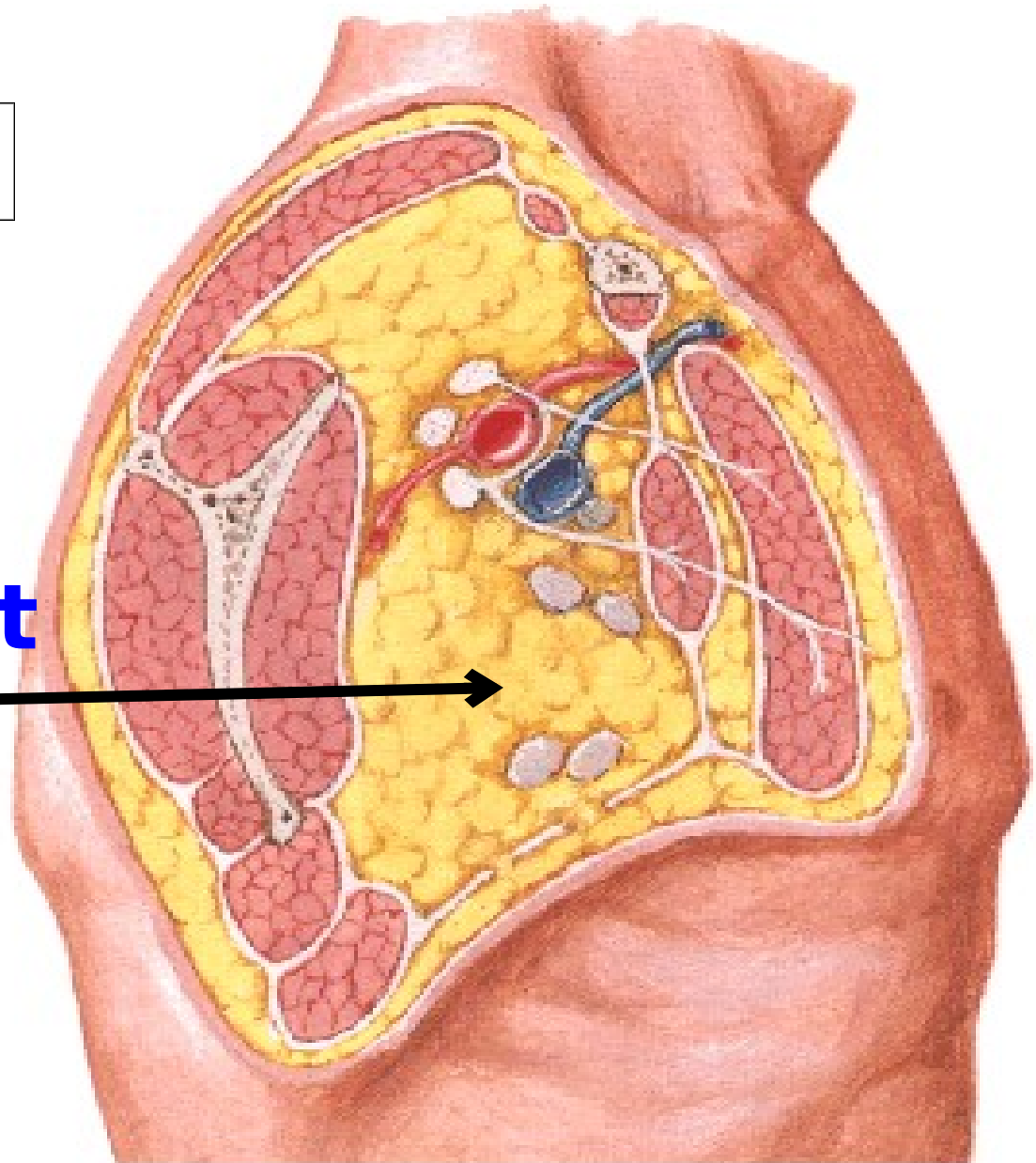
*Frank H. Netter  
Atlas of Human Anatomy  
6<sup>th</sup> edition*

# Long thoracic nerve





# Axillary fat



*Frank H. Netter  
Atlas of Human Anatomy  
6<sup>th</sup> edition*

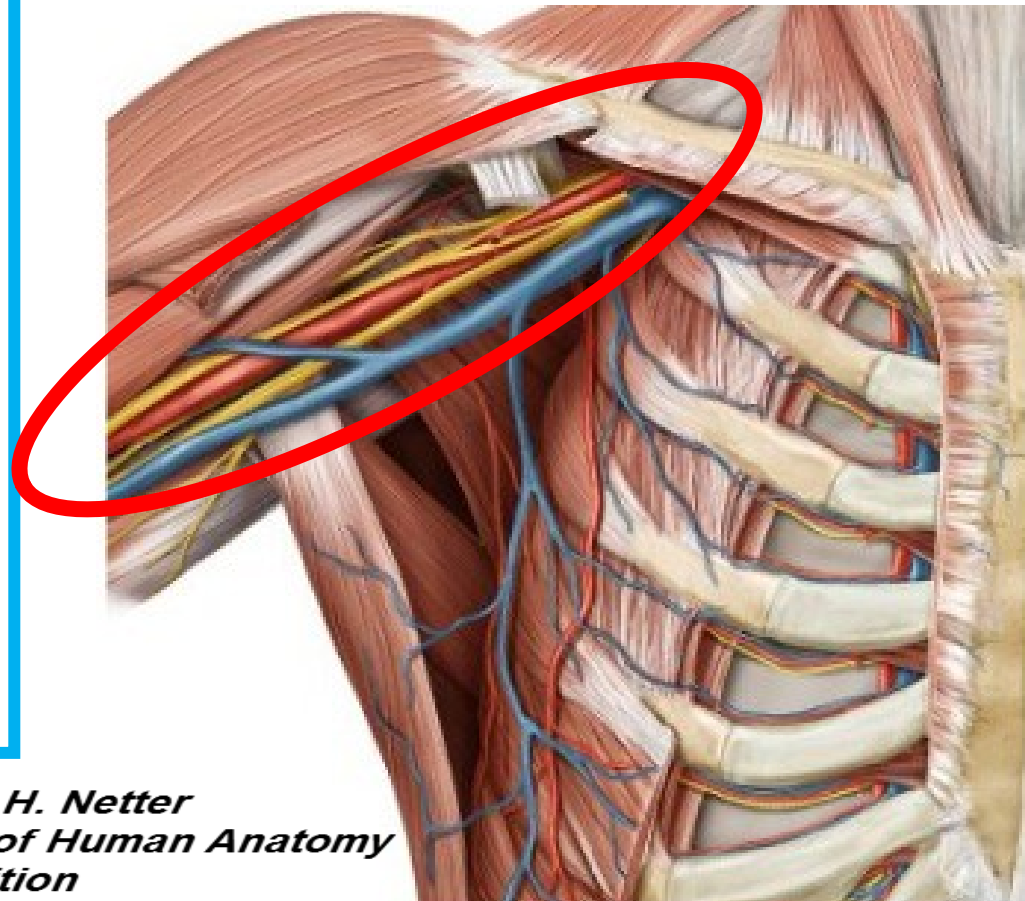
- **All are contents of the axilla, Except:**
  - A. Axillary artery & branches**
  - B. Axillary vein & tributaries**
  - C. Axillary fat**
  - D. Roots of brachial plexus**
  - E. Cords & branches of brachial plexus**

# APPLIED ANATOMY

- Most of axillary contents lie close to its lateral wall.

- So it is more safe to reach the axilla

**surgically close to its medial wall.**



Frank H. Netter  
*Atlas of Human Anatomy*  
6<sup>th</sup> edition

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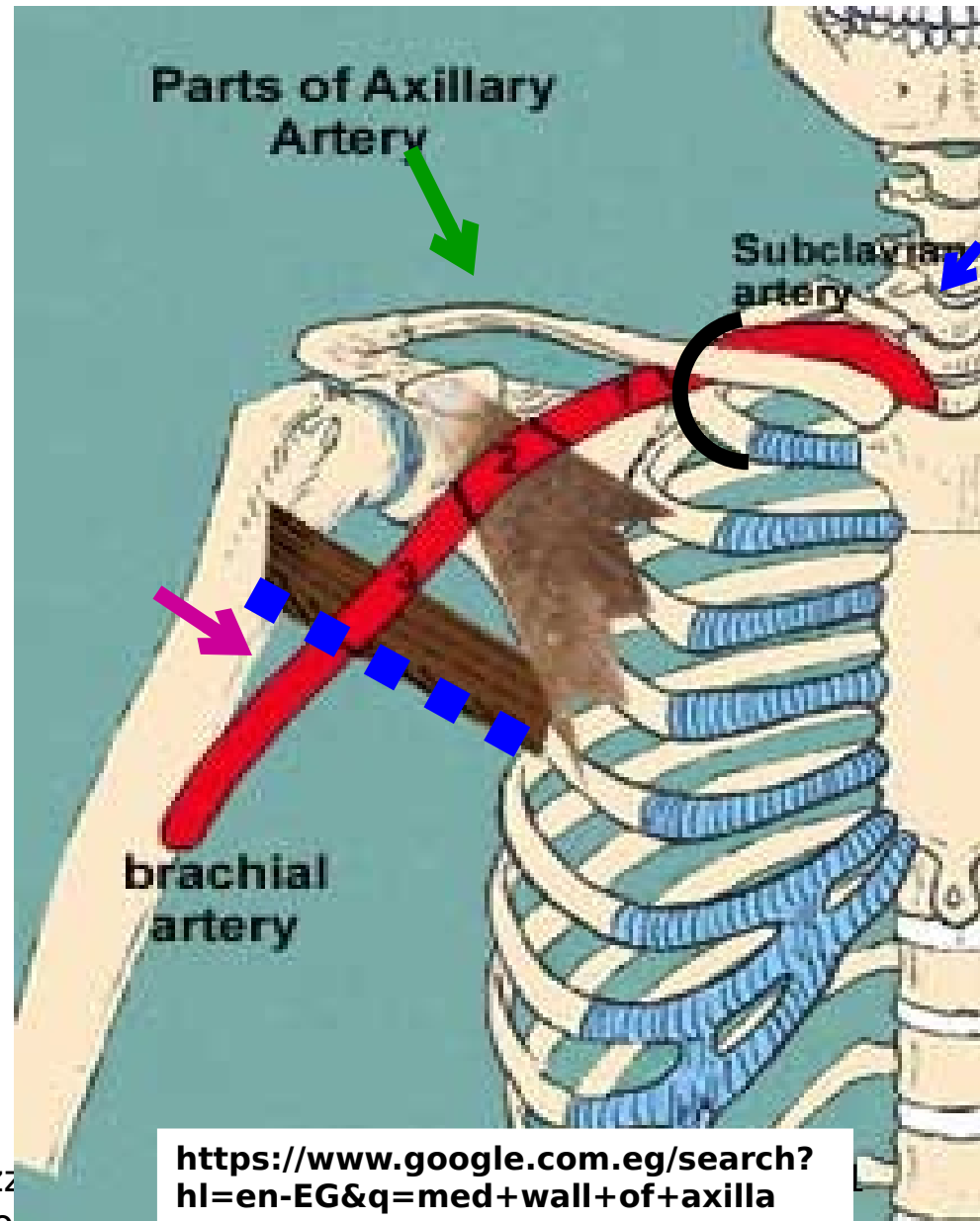
- **A surgeon is about to open the axillary to drain a deep abscess. Which wall is the most safe one to approach during his surgical procedure?**

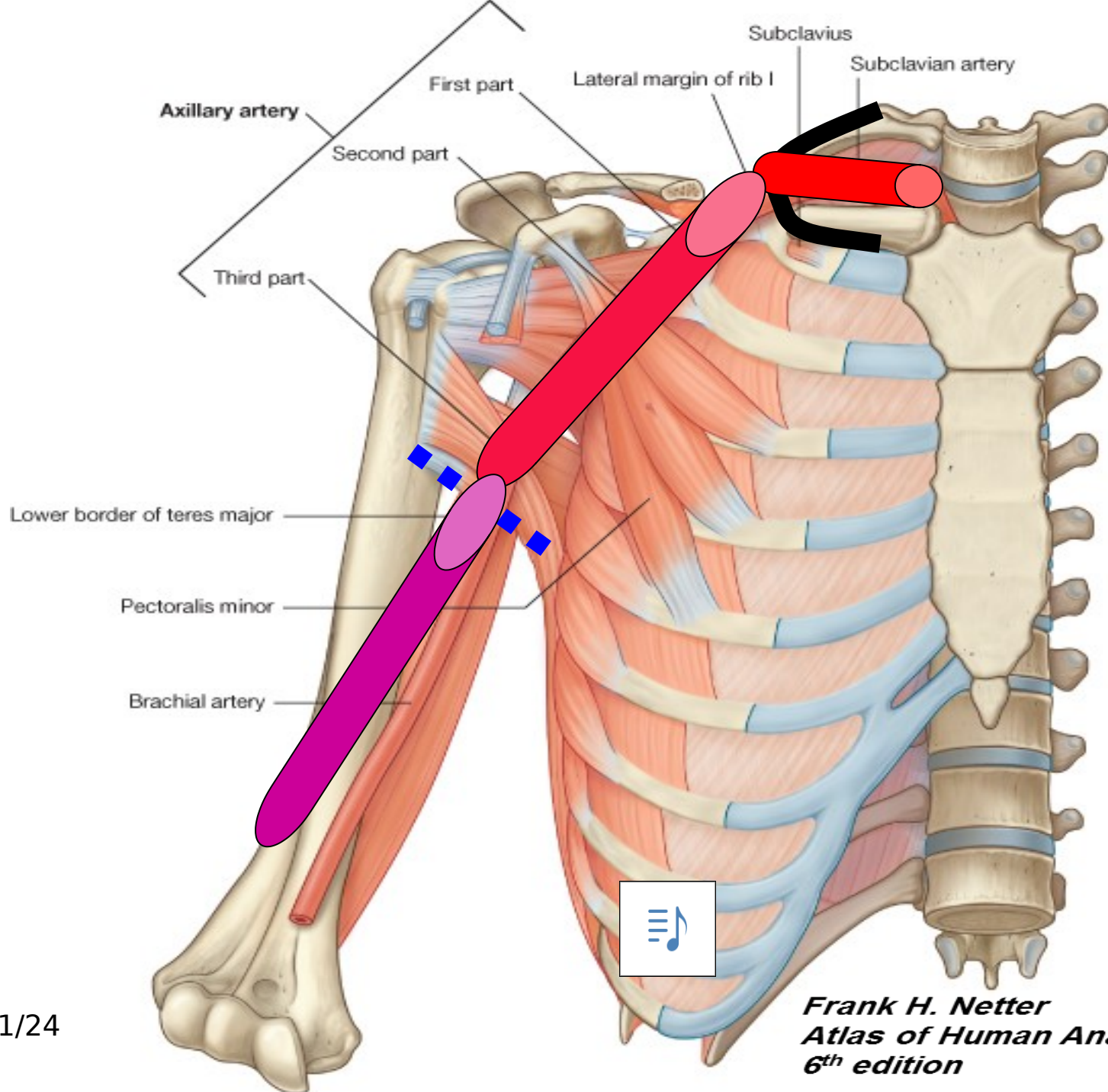


- A. Anterior wall**
- B. Posterior wall**
- C. Base**
- D. Medial wall**
- E. Lateral wall**

# The Axillary Artery

- **Axillary artery is the continuation of the subclavian artery.**
- **Starts at the outer border of the first rib .**
- **Ends at lower border of the teres major muscle where it continues as the**



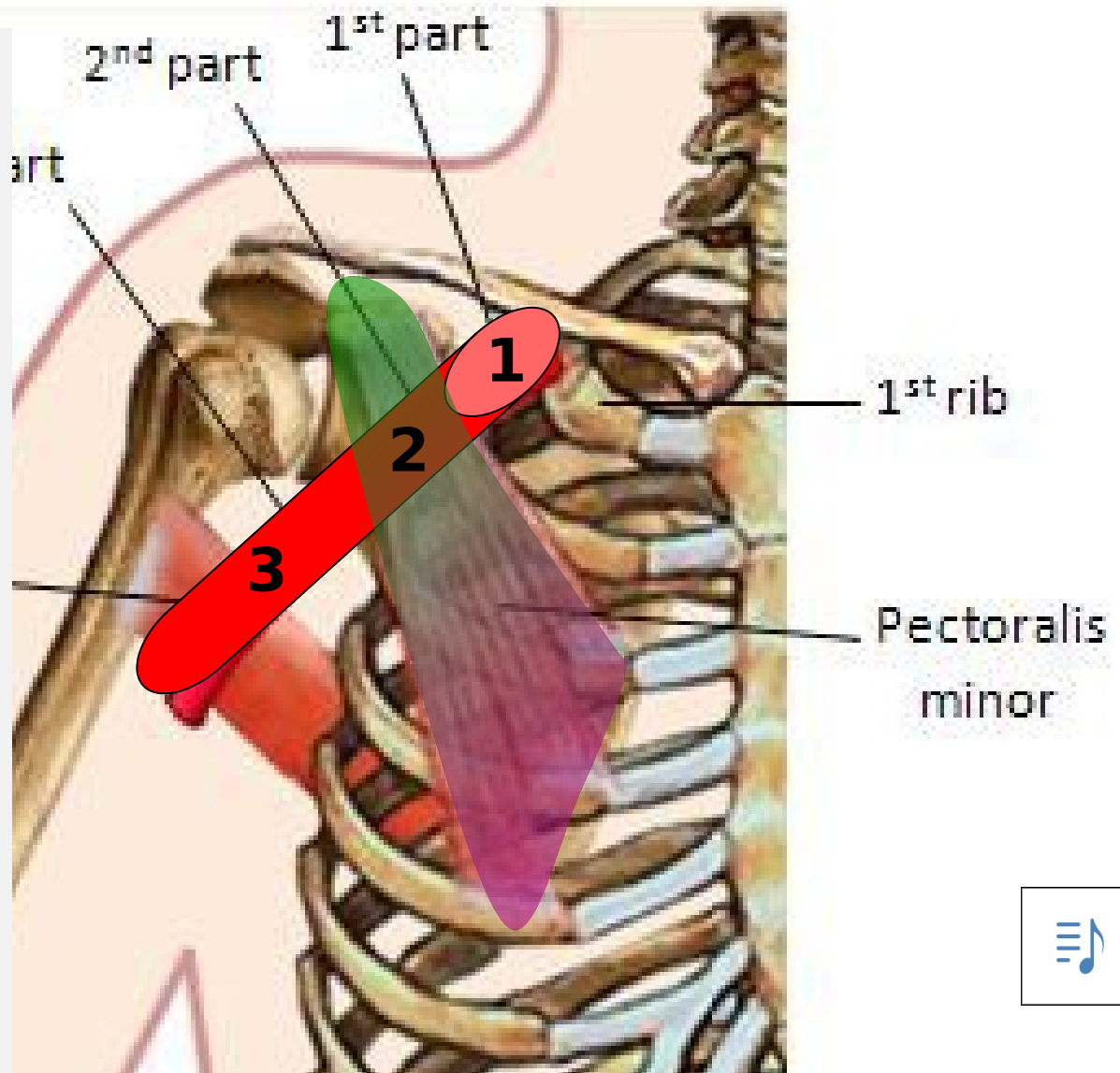


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# Axillary artery


**Pectoralis minor** muscle crosses in front of the axillary artery and divides it into three parts:

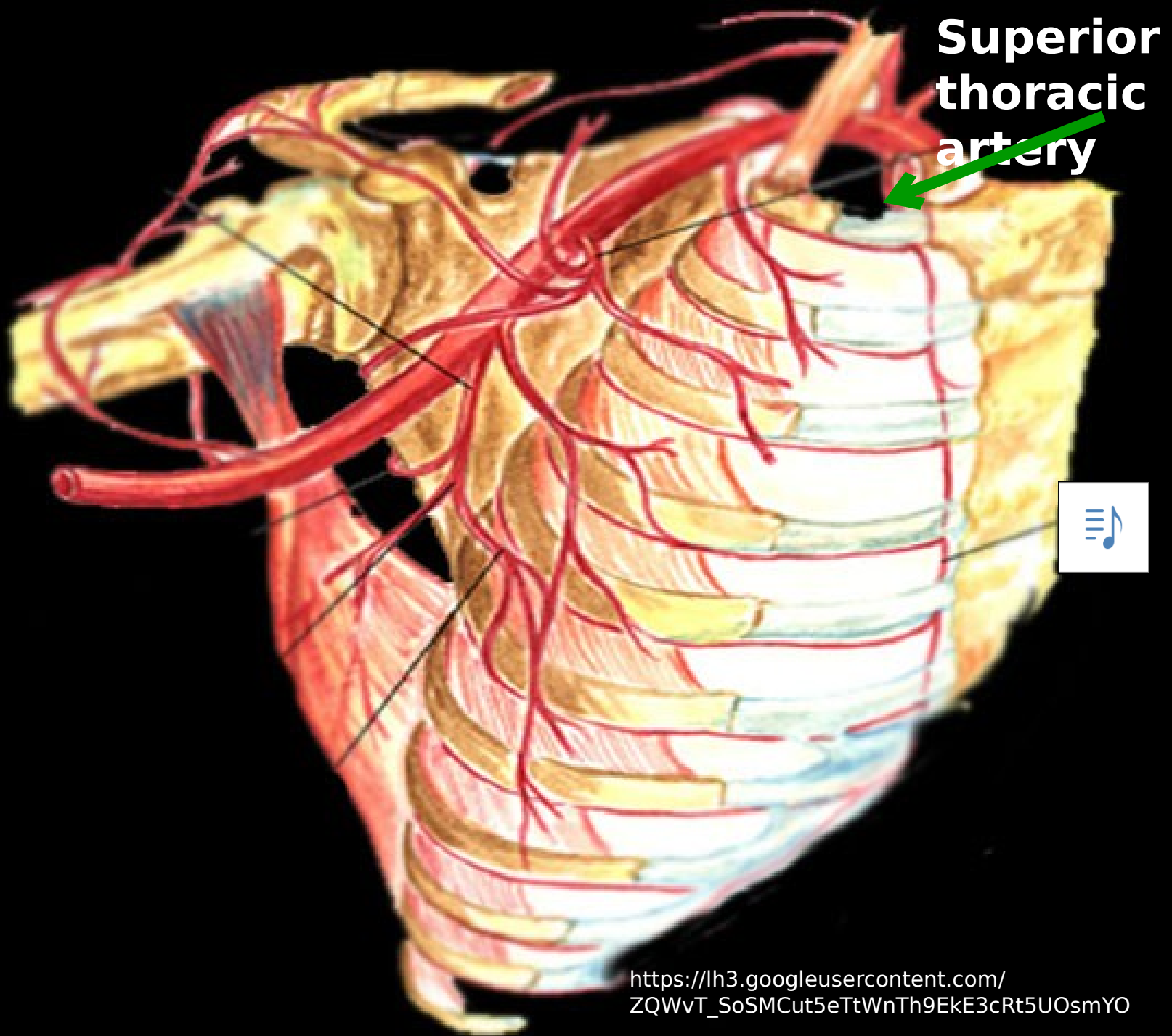
- 1) 1<sup>st</sup> part ☐  
above pectoralis minor
- 2) 2<sup>nd</sup> part ☐  
behind pectoralis minor
- 3) 3<sup>rd</sup> part ☐  
below



[https://lh3.googleusercontent.com/NVdeWK6XX9bdfjmi1SAe19mGo8IsNu2y7z8mt4Wx\\_UNqvUkRxt48ZGThou5yZOI\\_yxIjn6g=s121](https://lh3.googleusercontent.com/NVdeWK6XX9bdfjmi1SAe19mGo8IsNu2y7z8mt4Wx_UNqvUkRxt48ZGThou5yZOI_yxIjn6g=s121)

# Branches of first part of axillary

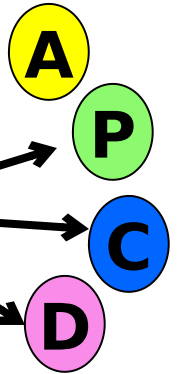
- **artery** 
- **superior thoracic artery** 



# Branches of the second part : 2 brs



**Thoracoacromial artery . 1**



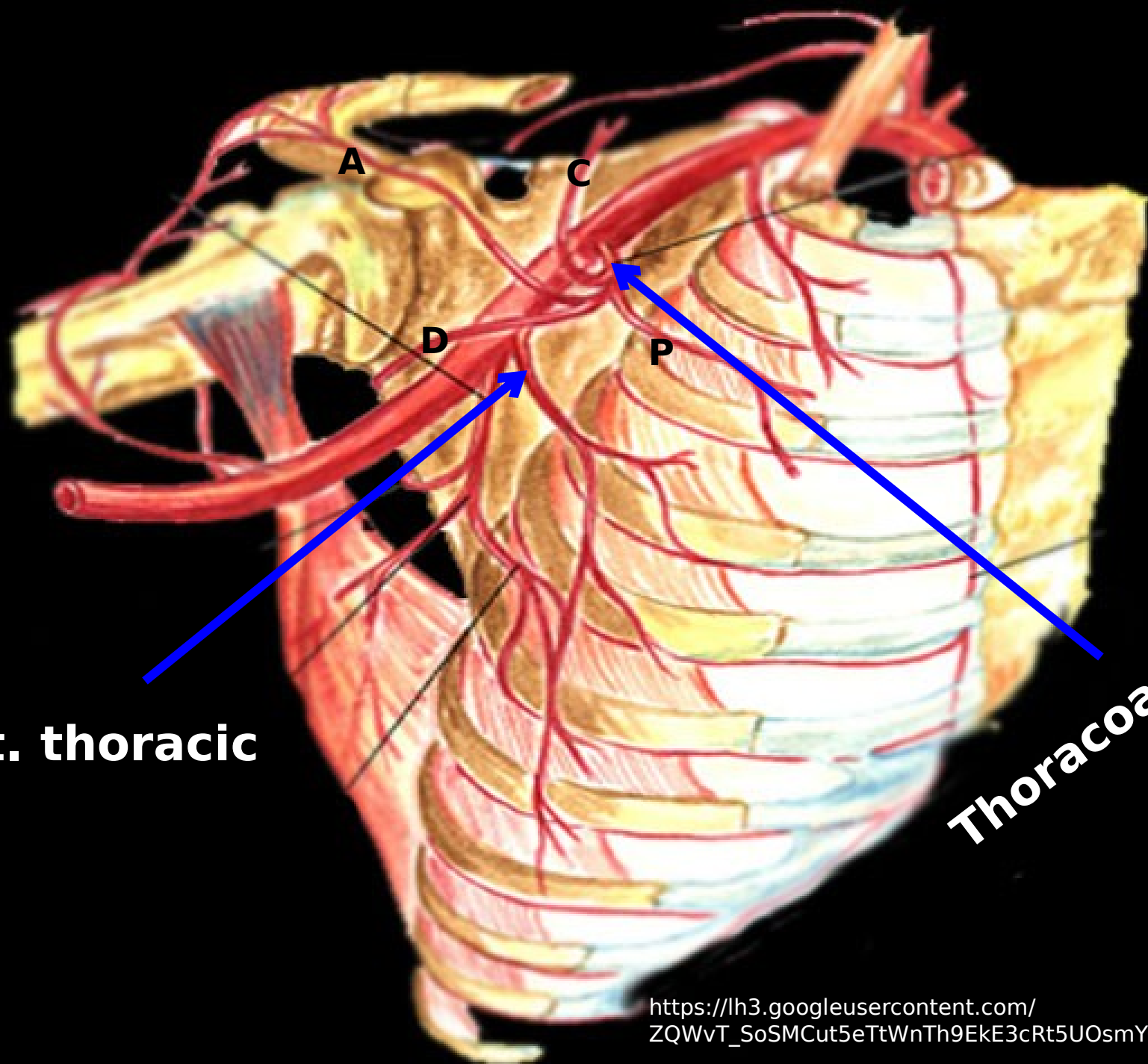
**romial**

**P**ectoral

**C**lavicular

**D**elto

**Lateral thoracic artery . 2**



**Lat. thoracic  
A**

**Thoracoacromial A**



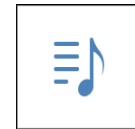
# **Branches of the third part:**

## **3 brs**

**Subscapular artery .1**

**Anterior circumflex humeral .2  
artery**

**Posterior circumflex humeral .3  
artery**



**Post. circumflex humeral  
A**

**Ant. circumflex  
humeral A**

**Subscapular A**

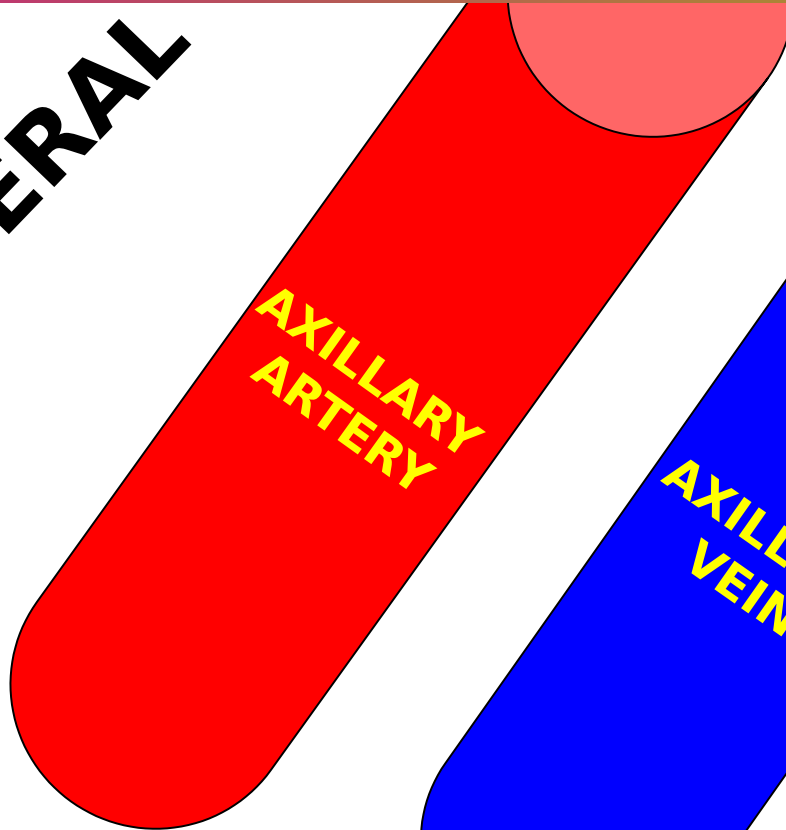
[https://lh3.googleusercontent.com/X9\\_SsgbB5v7j8Kjyl1jLjmoP\\_](https://lh3.googleusercontent.com/X9_SsgbB5v7j8Kjyl1jLjmoP_)



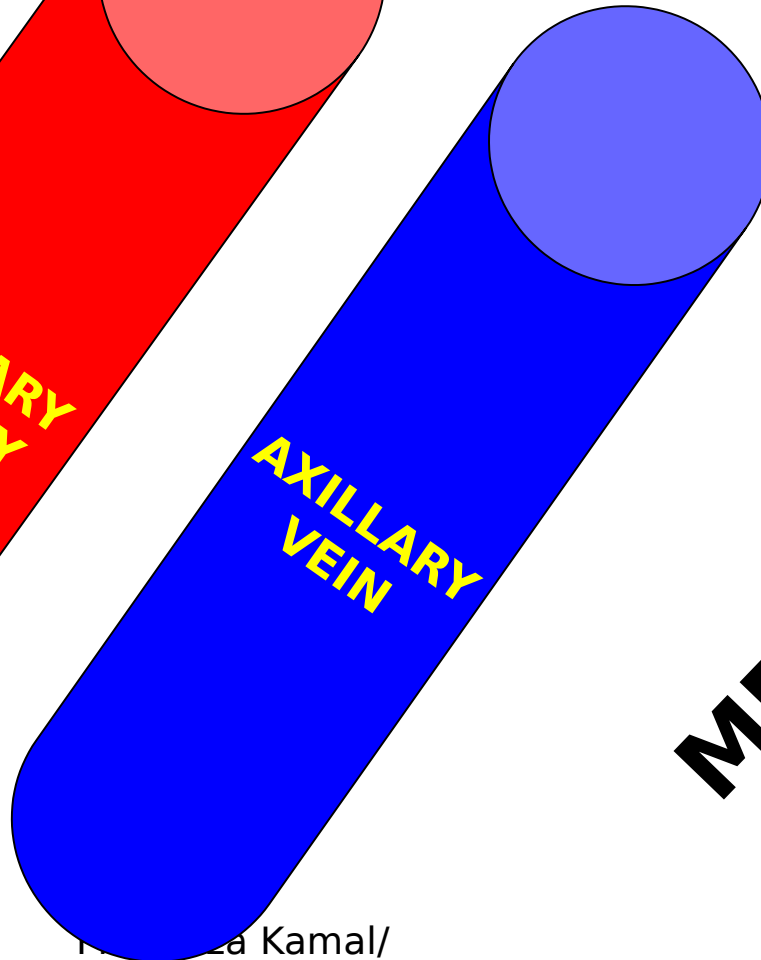
# Relations of Axillary Artery



**LATERAL**



**AXILLARY  
ARTERY**



**AXILLARY  
VEIN**

**MEDIAL**

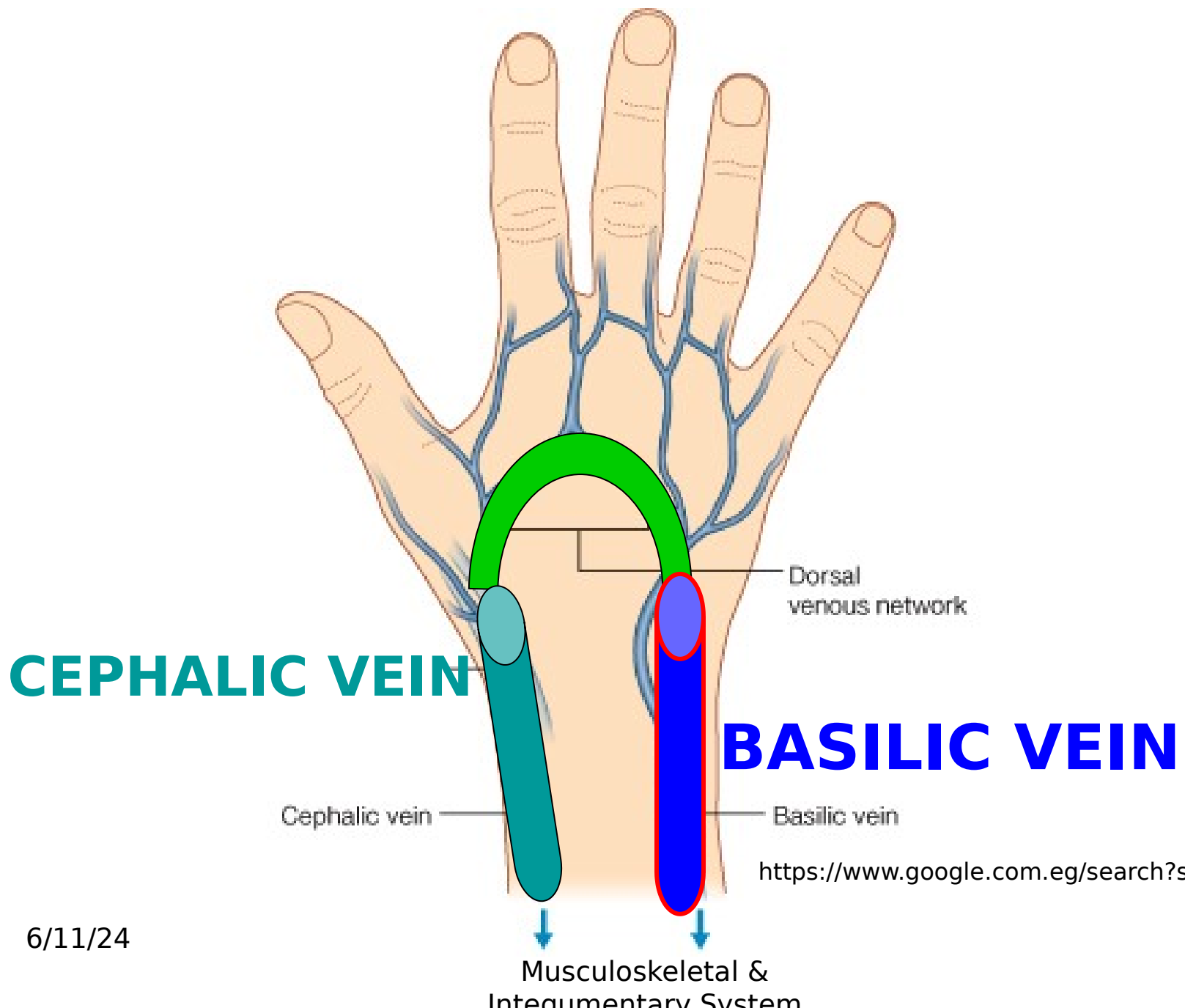
- **Which of the following arteries is a branch from the first part of the axillary artery?**
  - A. Anterior circumflex humeral**
  - B. Posterior circumflex humeral**
  - C. Subscapular**
  - D. Thoracoacromial**
  - E. Superior thoracic**

# Axillary Vein

- ❖ Begins at the lower border of teres major muscle as a continuation of the **basilic vein**.
- ❖ Ends at the outer border of first rib and continues as the **subclavian vein**.

Axillary vein is **medial to axillary artery**



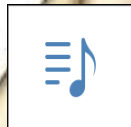
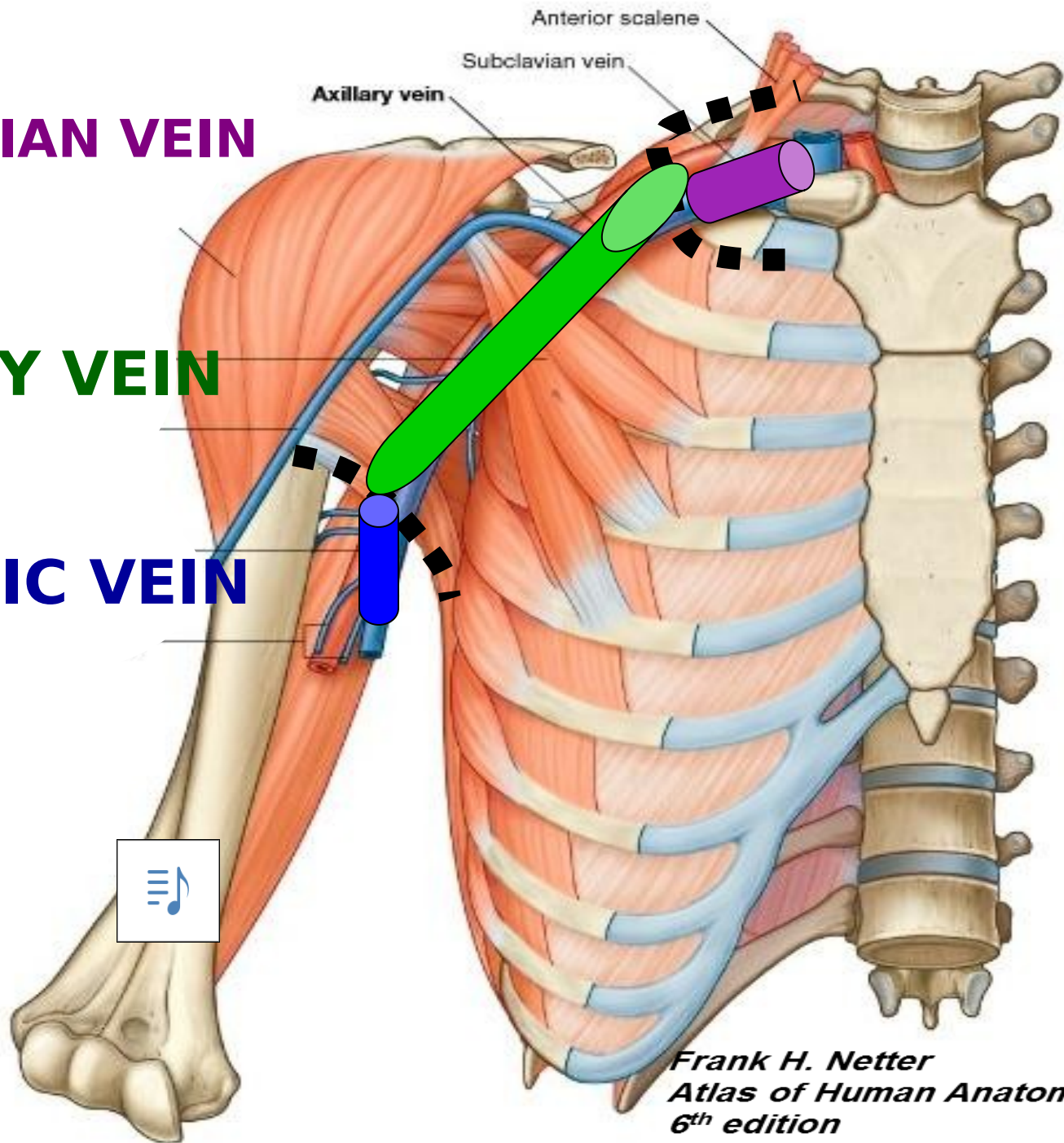


<https://www.google.com.eg/search?sa=G&hl=en->

**SUBCLAVIAN VEIN**

**AXILLARY VEIN**

**BASILIC VEIN**



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# Tributaries of axillary vein

- 1. Tributaries corresponding to the branches of the axillary artery.**
- 2. Cephalic vein.**
- 3. Two venae comitantes of the brachial artery.**

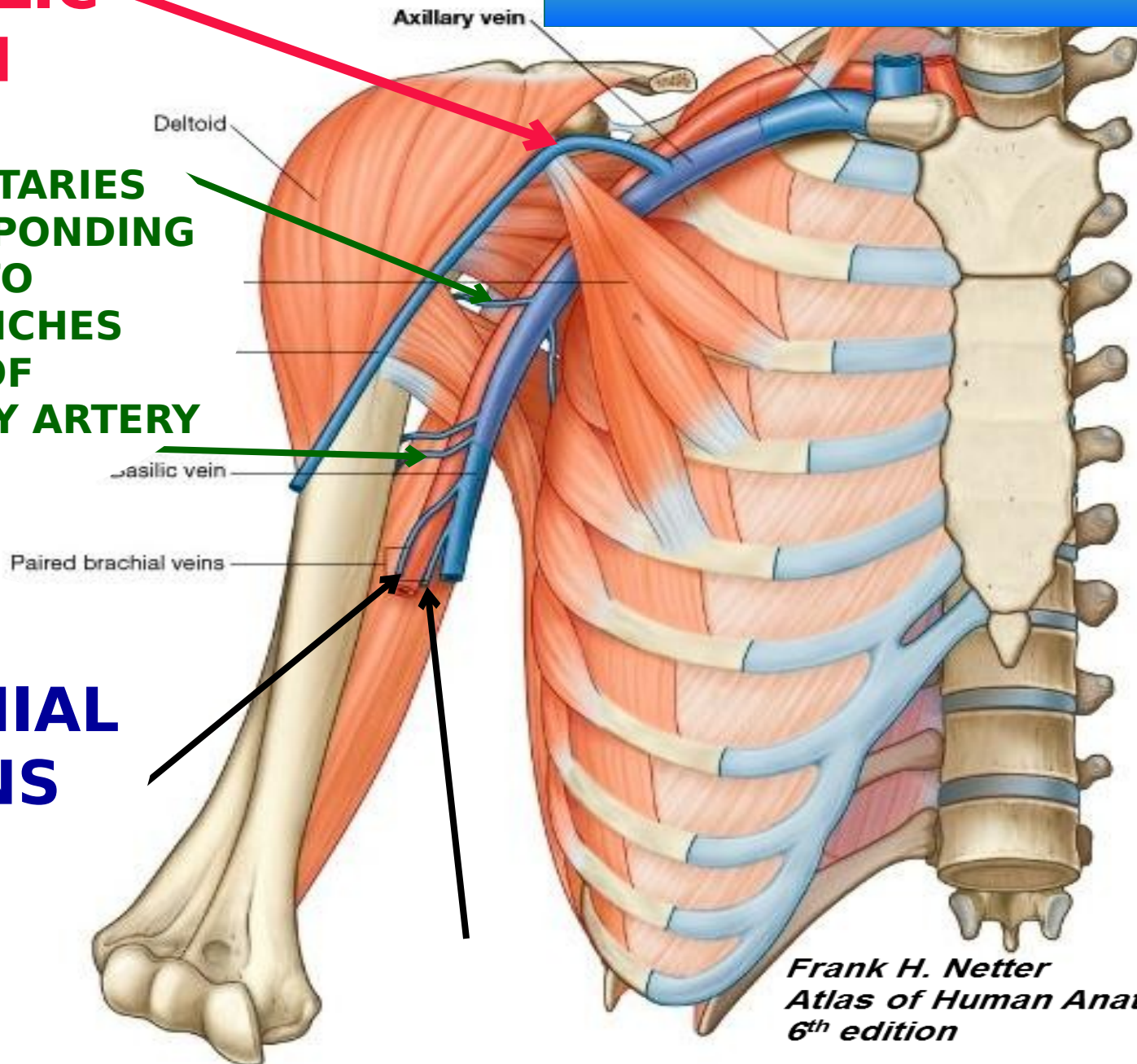


# CEPHALIC VEIN

## TRIBUTARIES OF AXILLARY VEIN

TRIBUTARIES  
CORRESPONDING  
TO  
BRANCHES  
OF  
AXILLARY ARTERY

# BRACHIAL VEINS



Frank H. Netter  
Atlas of Human Anatomy  
6<sup>th</sup> edition

- **The axillary vein begins at the lower border of teres major as the continuation of which of the following veins?**
  - A. Cephalic**
  - B. Basilic**
  - C. Median cubital**
  - D. Brachial**
  - E. Superior thoracic**



# THE END

***Suggested Textbook:***

*Clinical Anatomy for Medical Students*

*Richard S. Snell/ Third edition*

*Pages : 416 & 426-428*

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